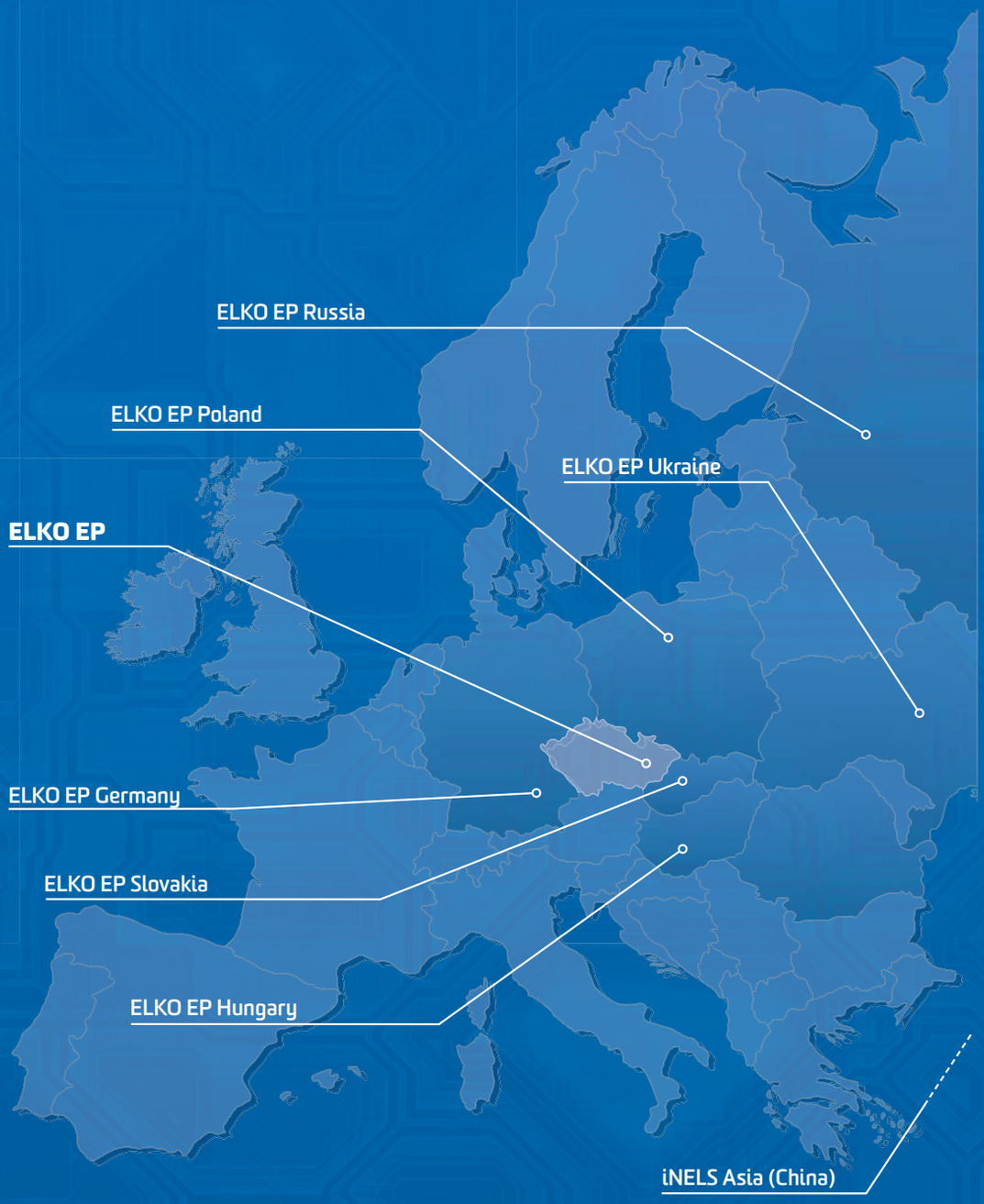

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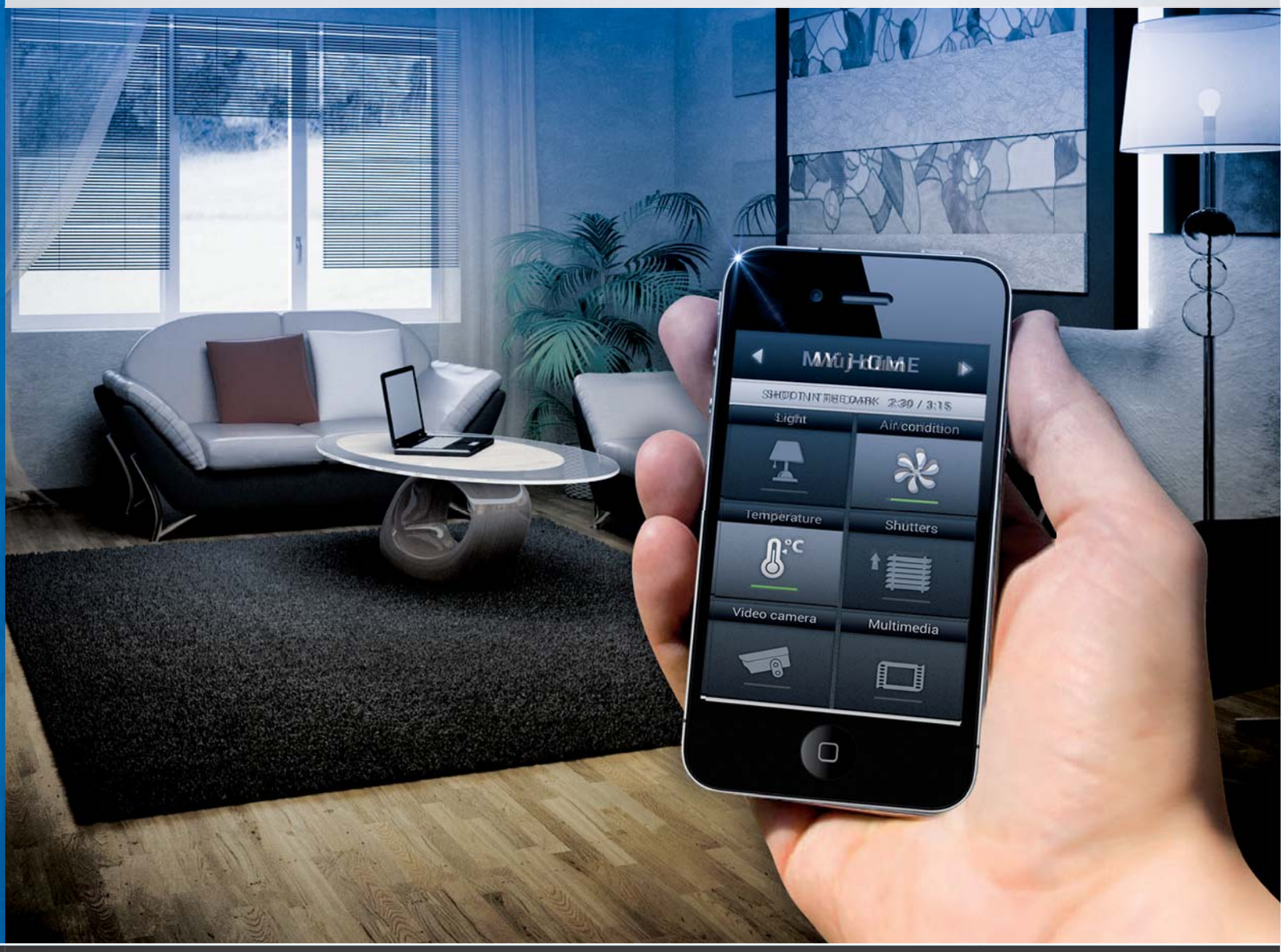
ELKO ep®

INTELLIGENT ELECTRO-INSTALLATION

iNELS® BUS System

TECHNICAL CATALOGUE



www.inels.com

Presentation of ELKO EP Company

ELKO EP, which is based in Holešov, has been with you on the electrical market for the past 20 years, covering a wide range of domestic equipments in the field of electrical installations. In the last few years there has been dynamic development of smart wiring, in which our company has been seven years developing and launching iNELS smart home system solutions. In modular devices, as well as in smart wiring, we have become market leaders. We're developing products that bring comfort to customers and safety for the environment.

The Parent ELKO EP company has gradually grown in 7 branches - Slovakia, Hungary, Poland, Russia, Ukraine, Romania and most recently Germany. At the same time we export to 60 countries around the world, and our products can be found under the world famous brand names (Schneider Electric, Eaton, HAGER, Siemens, MORS SMITT).

Our work is based on the development and modern technology. In practice, we appreciate you as our customer, because you're receiving good products and smart solutions, which meet your requirements. Own development facilities, precise production and distribution, all this gives you the opportunity to use solutions which are both innovative and practical. There are our modern manufacturing facilities to produce all our products. It was extended over the newest and fastest SMD line, which means for you guaranteed quality and flexibility of supply.

We have and supervise 80% share of the Czech market and the fourth position in Europe.
Current-year sales growth: 20%
Number of employees in Holešov: 170
Number of employees of ELKO EP Holding: 236

Awards and Recognition:
In 2011, the experts awarded the top products developed in ELKO EP: RF Touch - wireless touch control unit won a Golden Amper, Moravian Electrical and Electronic Association Award, Innovation Award of the year and PwC Special Award for Innovation. Also iNELS Multimedia - Multimedia control through television, won an award - honorable mention Grand Prix.
ELKO EP Company provides the possibility for students in technical fields to do their thesis.
In 2012, the company ELKO EP became the number one company in Zlín Region and in the national finals, we won second place.

Our range of products is divided into three product lines - relay (classical modular devices), RF Control (wireless), iNELS BUS system (Bus System). Each product line has its own technical catalogue, where you can find complete information on individual products.

Product Lines

RELAYS - Modular electronic devices **www.elkoep.com**

A wide range of electronic modular devices, which brings new possibilities to home and office control, monitoring and security, as well as to industrial process control: time relays, installation contactors, staircase automatic switches, time switches clocks, dimmers, thermostats, power supplies units, control and signalling devices, GSM gates, etc.

iNELS BUS - Intelligent electro-installation System **www.inels.com**

iNELS will transform your house into a timeless intelligent household. It will take charge of heating and air-conditioning regulation, lighting control and switching home appliances, while also providing perfect security for your home. Enjoy controlling your entire house via a TV screen thanks to iNELS Multimedia (iMM) or use the elegant iNELS Touch Panel (iTP).

iNELS RF Control - Wireless control **www.elkoep.com**

A unique wireless control system, which is providing you perfect control over your home! The RF Control system enables you to control functions such as heating, lighting, electrical appliances and window shutters, all with a single touch. No wall cutting, fast and easy installation, exclusive design of wireless wall switch buttons and other components.

LOGUS^{90} – Home switches and sockets **www.logus90.com**

We are offering you an exclusive switches, sockets and accessories in a standard plastic or metallic design. However, there are also charming luxury frames from purely natural materials such as genuine wood, metal, granite or hardened glass. Be especial!

iNELS system advantages

Advantages to classical electrical installation:

Comfort
- dimming function (gradual dim-up/dim-down, soft start, light scenes)
- control via touch-screen (built-in a wall) = complete information
- control via any remote controller (e.g. of your TV or stereo)
- voice control (Sophy unit, responds to your voice commands)
- temperature regulation according to pre-set programs – in each room individually
- possibility to control by mobile phone, computer and Internet

Automatization
- function is done automatically on the basis of set value (time, temperature, light intensity, movement of people, wind strength...)
- it is possible to execute several functions on the basis of one command or event (e.g. when it is dark - INELS rolls shutters down, switches lights on, increases room temperature and switches TV on, and many others ...)
- arrival/departure functions: after a code is entered (or a card reading) to a keyboard, system automatically sets electrical appliances according to the identified user.

Supervision
- system informs you about selected event/events by SMS text message
- anywhere you are and where you can get internet access, you can connect to your house and supervise or change its state
- integrated security system can be connected to a security agency

Security
- alarm with extended functions is a part of the system
- system is equipped by a keyboard which can be controlled by a code or by an access card
- all settings and accesses are subjects of passwords in several levels
- protection of a house in case of bad weather (shutters in strong winds or storm), unexpected events (irregularities in power supply, overload), natural disasters (sensor for flooding, smoke sensor)
- bio-installation: disconnection of unused electric circuit (e.g. socket outlets in bedroom while sleeping)
- setting ideal conditions for your children's sleep (gradual dimming off , pleasant temperature, motion monitoring = baby-sitting)
- touchable parts of sensors are supplied by a safe voltage 24V DC

Savings
- regulation of heating / cooling
- time or time-limited switching
- light regulation (possible energy savings up to 10%)
- dependant switching (e.g. when it is dark, for desired temperature etc.)
- blocking of selected appliances in case of high meter tariff
- elimination of unwillingly switched appliances (e.g. when there is no motion – light switches off)

Design
- modern design of the switches and sockets, thermostat, voice activity detectors – optional designes of Elegant or LOGUS^{90}
- variety to combine different colours also in multiframe versions
- touch panel screen – unique solution of elegant wireless home automation

Time for installation
- considerably lower thanks to bus installation (only 2 control wires)
- units are installed and later programmed

Flexibility of changes and extensions
- in future it is possible to add or change units easily
- functions can be changed by PC, also remotely through Internet

Available features for disabled people
- voice and remote control
- sound messages for blind (unit Sophy speaks pre-recorded messages)
- several actions can be done by one command
- control by computer from one spot

iNELS BUS System

10 reasons to choose the iNELS BUS System

1) Ideal solution for new buildings

2) Reduction in energy use up to 30 %

3) Two-wire bus

4) Electro-installation can be extended

5) There is a possibility to change the way of controlling

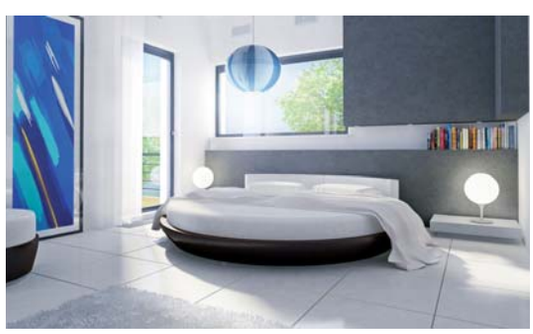
6) Remote control through Smart phone, tablets or laptop

7) Effective solution - can be combined with a security system

8) Regulation depending on the weather

9) Logical and central functions (e.g. exit button)

10) Media under control (can be also controlled via TV)



Choose the right one!

PRICE OF INSTALLATION

Control using the TV	-
Tablet	●
PC / Laptop	●
Music playback	-
Video cameras	-
Weather station	-
Door communicator	-
Controlling home appliances	-
Touch panel	●
Control via Smartphone	●
Detectors	●
Wireless switch	●
Heating regulation	●
Controlling blinds	●
Dimming lights	●
Controlling appliances	●

Wireless electro-installation

Most of you have already built a house or furnished an apartment. If you want to bring life into your home, we have an elegant wireless solution. As the name implies, the wireless communication is working with a range of up to 200 m (it depends on the internal structure of the house/apartment, and the used building materials).

The central brain is in this case the touch RF Touch unit, which can be placed anywhere within the range. It's possible not only to program all the system from this unit, but also to control it. Brightly replaces several thermostats and controls. Within the system, you have an unlimited opportunity to add any controllers and placing them at the suitable places.

Energy savings:

PRICE OF INSTALLATION

Control using the TV	●
Tablet	●
PC / Laptop	●
Music playback	●
Video cameras	●
Weather station	●
Door communicator	●
Controlling home appliances	●
Touch panel	●
Control via Smartphone	●
Detectors	●
Group controller	●
Heating regulation	●
Controlling blinds	●
Dimming lights	●
Controlling appliances	●

Bus electro-installation

Are you building a new house? Then you should consider a bus-based solution. A bus in this sense is a data conductor that is distributed in the walls across the entire home. As opposed to a wireless solution, its advantage is range, because up to 6 x 550 m buses can be distributed in a single building.

Connection to a computer expands the scope of its available functions. This system may be expanded to include multimedia extensions and can connect third party devices (household appliances, A/C, etc.). Control and monitoring the system can be performed via PC, the Internet, telephone, tablet, etc.

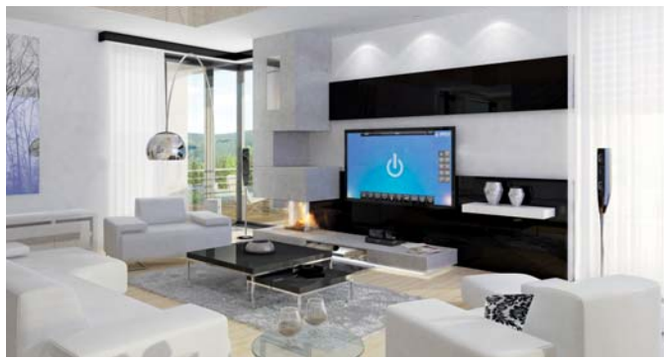
The system offers a wider range of functions that can be applied. A computer is used to set the parameters.

Energy savings:

BUS electro-installation

When you build new house or decide on a complex reconstruction, the bus solutions of iNELS BUS system represents a unique solution of electro-installation. The system offers wide range of functions which bring a pleasant comfort to the users. It also allows to integrate each technology in the house and brings savings. The way of controlling can be changed according to user requirements, the electro-installation can be also extended.

Using of applications to smartphones or tablets is very popular. They provide efficient and easy way to control your home during your absence.



What are the benefits of bus controlling?

- Save energy by regulating lighting and heating
- Control of blinds, awnings, exterior or inter-window shutters
- Dimming lights, lighting scenes
- Control of appliances or electrical devices
- Control access gates, garage doors
- Logical and central functions (exit button, ...)
- Manual and automatic control mode
- Preventing undesirable opening of a window or a door
- Responding to the movement of persons (authorized and unauthorized)
- Remote monitoring via smartphone, tablet or laptop
- Possibility to control via the TV screen
- Integration of third-party devices (cameras, air conditioning, ...)

iNELS BUS System allows you to integrate and control most of technologies used in your house. It saves your money spent on energy. You don't need to wonder whether it is summer or winter. Simply set the desired the temperature in the room and your house automatically knows what to do.

The main idea of intelligent living is saving. The house is able to switch off the lighting and heating in the room at the time of your absence. In winter it pulls up the blinds, what allows the house warming by sun rays. Vice versa in the summer the blinds are pullled down earlier what reduce the switching frequence of energy-intensive air conditioning.

Flood, temperature, fire or gas leak detector sends command to close the water supply, gas, ventilation, etc.
The really useful features is also a simulation of presence when you are on vacation.

To control electro-installation you can use wall-switches, glass touch switches, touch display, smartphone, tablet or TV screen. So you can easily control whole house from one place.

Do you like to listen music, to watch movies or to view pictures? All these data can be available from anywhere in your house thanks to iNELS Multimedia. In addition you can easily turn off children's television in other room. Whole house can be controlled via TV screen.

Switching
el. appliances

Light
dimming

Heating
regulation

Air conditioning
control

Roller blind
control

Detector
control

RF Remote Control Pilot with OLED display

You can control your house from your sofa in the living room. You can also change the temperature in selected room or switch off lights in garage. The iNELS multimedia allows you to view your pictures from your family holiday, switch on TV in other room for your kids or listen music. Everything is stored in central storage and it is available from anywhere in your house.

Touch control unit EST

EST unit with color touch display enables you to regulate the heating, control RGB light sources and control e.g. light scenes or blinds.

Control electro-installation by Smart phone

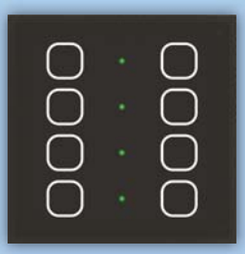
You house is all the time under control thanks to applications in your Smart phones or in tablets. Supported operating systems are Android, iOS.

House switches and sockets

LOGUS90

Modern design of the switches and sockets!

The devices can be connected directly to BUS CIB with a combination of multiple frames.



GSB3-40/60/80
Wall glass touch controllers

WSB3-20
Wall controller, 2 buttons

WSB3-40
Wall controller, 4 buttons

WMR3-11
Contactless media reader

EST-3
Touch display

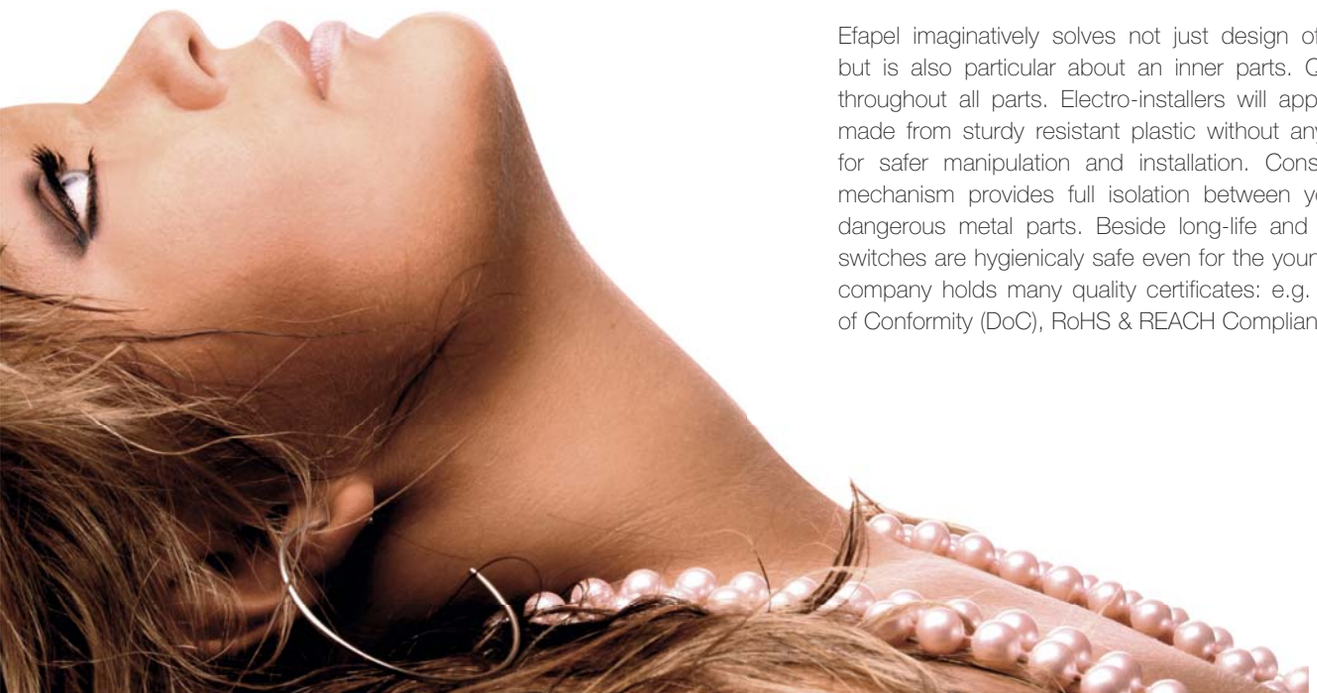
Design, which takes your breath

Luxus, individuality, beauty. With these words, we can characterize design of switches, which will catch us on the first look. Switches, socket outlets and accessories are in plastic design or resp. plastic with metalic spraying on it. But for the line LOGUS90 are characteristic a glamorous and luxury materials: metal, real wood, hardened glass or marble. From these materials are made frames, which we combine with plastic covers of wall-buttons and sockets-outlets. Covers are offered in white or ivory colour and with the spraying on it in pearl, ice, aluminium and grey colour. Resistance of colour against abrasion and scratching is strictly tested and manufacturer guarantees 10 years warranty on colour constancy by standard using. Covers can be cleaned with alcohol without any risk. A matter of interest is that the same colour is using also by Mercedes or BMW for their car spraying… With their simplicity, design purity and variety of covers and frames, the switches fit to any interior.

Standardly 24 combinations are offered. Switches are truthfully described by its strictly geometric shapes. Thanks to square symmetry of all frames there is a possibility to install them either horizontally or verticallly.

Thirty years tradition of production

ELKO EP s.r.o. is an exclusive distributor of Portugeese manufacturer Efapel for this modern line of house switches. Its quality has been prooved in humid and salty conditions as well as more than thirty years tradition of manufacturing and distributing electro-installation products over the world. EFAPEL is a highly respected company, which is speciallized in production of units for low-voltage installations, protection elements for electrical panels, cable systems, connectors, telecommunication panels and sound systems. The company was established in 1978 and now export into 48 countries worldwide.



Quality and safety

Efapel imaginatively solves not just design of push-buttons, but is also particular about an inner parts. Quality is visible throughout all parts. Electro-installers will appreciate devices made from sturdy resistant plastic without any sharp edges, for safer manipulation and installation. Construction of the mechanism provides full isolation between your hands and dangerous metal parts. Beside long-life and resistance, the switches are hygienicaly safe even for the youngest ones. The company holds many quality certificates: e.g. EC Declaration of Conformity (DoC), RoHS & REACH Compliance Certificates.

House switches and sockets

LOGUS90

BASE	AQUARELLA	ANIMATO	CRYSTAL	METALLO	ARBORE	PETRA
Plastic	Metallic design	Plastic	Crystal	Metal	Wood	Stone
BR - White	GE - Ice	MM - Ivory/Ivory	CG - Crystal/Ice	TP - Titanium/Pearl	FP - Beech Wood/Pearl	GG - Granite/Ice
MF - Ivory	PE - Pearl	RG - Yellow//Ice	CP - CRYSTAL/Pearl	IA - Inox/Aluminium	JP - Cherry Tree/Pearl	GP - Granite/Pearl
	AL - Aluminium	DG - Green/Ice	CA - Crystal/Aluminium	OP - Gold/Pearl	MS - Mahogany/Grey	GA - Granite/Aluminium
	IS - Grey	ZG - Blue/Ice	CS - Crystal/Grey	QS - Nickel/Grey	NA - Walnut Tree/Aluminium	GS - Granite/Grey
		JG - Orange/Ice		US - Aluminium/Grey		
		VG - Red/Ice		RS - Chrome/Grey		

* All color combinations series ANIMATO can be found in the catalogue LOGUS90

Switches and sockets in design LOGUS90 for classical electro-installation

BEAUTIFUL,EXTRAORDINARY AND LUXURIOUS

Mechanism of the switch

Covers can be easily changed instead of the old switches or if you just like a different combination. Any installation of individual parts together is very easy. Device has four clips, so the frame fits right into it, other system of mounting is not need. This smart clips provide smooth operation of switch, even if the wall is not perfectly flat. Issue with not so straight surface is solved by „floating rocket". Device can be mounted into installation box with classic screws, or with more comfort spacers. Another advantage provides screwless terminals: wires provide fast comfortable connection without any need of screwing. Depth of device is just 20 mm, it means that fits into the box without any problems. There are doubled terminals on each pole, which provide multiple connection of mechanism, another terminals are not need. Holes on the front side of the cover are designed for electrical functional test of device – removal of whole device is not need. Of course Logus offering, beside a basic single pole switch, also double pole switch (two functions) or triple pole switch (three functions).

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Overview of system units

System units

CU3-01M
Basic element of the system, 2x CIB, OLED display, Ethernet 10/100 Mbps, 1x RS232, 2x PSM, 4 universal inputs, 6-MODULE

PS3-100/iNELS
Power supply 100W, supply voltage AC 85-253 V AC/50-60 Hz, output voltage DC / max. current: 27.6 V/3.6 A and 12.2 V/0.35 A, 6-MODULE

MI3-02M
Allows you to expand the system with two CIB (2 x 32 units), 1-MODULE

BPS3-01M, BPS3-02M
It is used for impedance segregation of bus from the power supply, 1-MODULE

GSM3-01
GSM gateway for iNELS communication system with GSM mobile phones, RS232, 3-MODULE

Switching actuators

SA3-02M
2x changeover contacts 16 A, LED indication for relay status, manual control, 1-MODULE

SA3-04M
4x changeover contacts 16 A, LED indication for relay status, manual control, 3-MODULE

SA3-06M
6x changeover contacts 8 A, LED indication for relay status, manual control, 3-MODULE

SA3-012M
12x switch contacts 8 A, LED indication for relay status, manual control, 6-MODULE

SA3-01B
1x switch contacts 16 A, 1x thermo input, mounting into the installation box

SA3-02B
2x changeover contacts 8 A, 1x thermo input, mounting into the installation box

Shutter actuator

JA3-02B/DC
Actuators for control and management of blinds, shutters, awnings, mounting into the installation box

Dimming actuators

DA3-22M
Unit for ESL dimming, LED and RLC load, 2 x 400 VA, 2 control inputs, 1x thermal input, 3-MODULE

LBC3-02M
Control unit for electric ballast, 2x changeover contacts 16A, 2x analog signal 1-10 V, LED indication for relay status, 3-MODULE

Input units

IM3-140M
Input module,
14x binary inputs,
3-MODULE

IM3-20B, IM3-40B
Binary Input modules, 2x/4x input, 1x thermal input, mounting into the installation box

IM3-80B
Input module,
8x binary input,
1x thermal input, mounting into the installation box

TI3-10B
Connection unit
1x sensor TC, TZ, Ni 1000, Pt1000 or Pt100, mounting into the installation box

TI3-40B
Connection unit
4x sensor TC, TZ, Ni 1000, Pt1000 or Pt100, mounting into the installation box

TI3-60M
Connection unit
6x sensor TC, TZ, Ni 1000, Pt1000 or Pt100, 3-MODULE

Converters

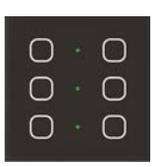
ADC3-40M
analog signal converter on the bus,
4x analog inputs,
3-MODULE

DAC3-04B
Converter from bus to signal 0 (1) -10 V,
4 channels, 1 x temperature input, assembly the installation box

DAC3-04M
Converter from bus to signal 0 (1) -10 V,
4 channels, 1 x temperature input, 3-MODULE

Wall units and controller

EST-3
The control unit with touch display



GSB3-40, GSB3-60, GSB3-80
Capacitive glass wall mounted controllers, 4x/6x/8x buttons, built-in temperature sensor, 2x AIN/DIN, comes in LOGUS^{90} design

WSB3-20
Two-button controller, built-in temperature sensor, 2x AIN/DIN, 1x indication LED (red/green) comes in LOGUS^{90} design

WSB3-40
Four button controller, built in temperature sensor, 2x AIN/DIN 2x indication LED (red / green) comes in LOGUS^{90} design

WMR3-11
Voice Module (only SOPHY3), IR receivers, built-in temperature sensor, Light sensor, two-button control, comes in LOGUS^{90} design

IDRT3-1
Digital room thermoregulator, correcting of heating/cooling circuits +5°C/-5°C or it is possible to adjust directly desired temperature in °C

Multimedia

iMM Client
The video player enabling control of all functions via TV

Connection Server
Translate IP protocols of third-party devices

iMM Audio Zone
Controlling the audio functions of iNELS system

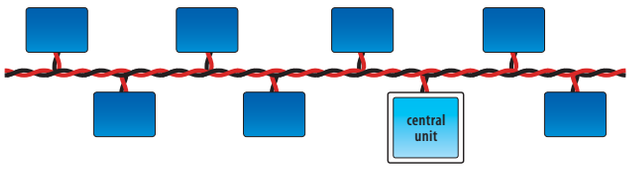
LARA
The music player and Internet radio

eLAN-IR-003
Converter Ethernet to IR code, 3 inputs, support IR codes for the frequency of 20-455 kHz

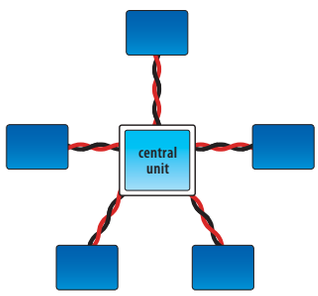
eLAN-RF-003, eLAN-RF-Wi-003
Converts commands from LAN to an RF signal to control RF actuators

Examples of CIB bus topology

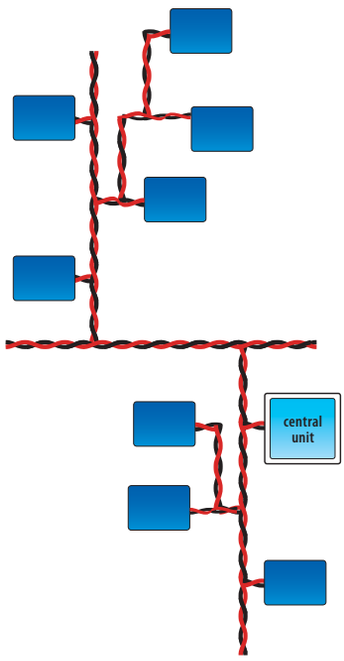
Linear structure



Circular structure



Tree structure



Product identification - explanation

SA3-04M

S	Switch
A	Actuator
3	3rd generation of iNELS
-	
0	Number of inputs
4	Number of outputs
M	Modular design

DA3-22M

D	Dimming
A	Actuator
3	3rd generation of iNELS
-	
2	Number of inputs
2	Number of outputs
M	Modular design

DAC3-04M

D	Digital
A	Analogue
C	Converter
3	3rd generation of iNELS
-	
0	Number of inputs
4	Number of outputs
M	Modular design

IM3-20B

I	Input
M	Module
3	3rd generation of iNELS
-	
2	Number of inputs
0	Number of outputs
B	Box (in a mounting box)

GSB3-80

G	Glass
S	Switch
B	Button
3	3rd generation of iNELS
-	
8	Number of inputs
0	Number of outputs

WSB3-40

W	Wall
S	Switch
B	Button
3	3rd generation of iNELS
-	
4	Number of inputs
0	Number of outputs

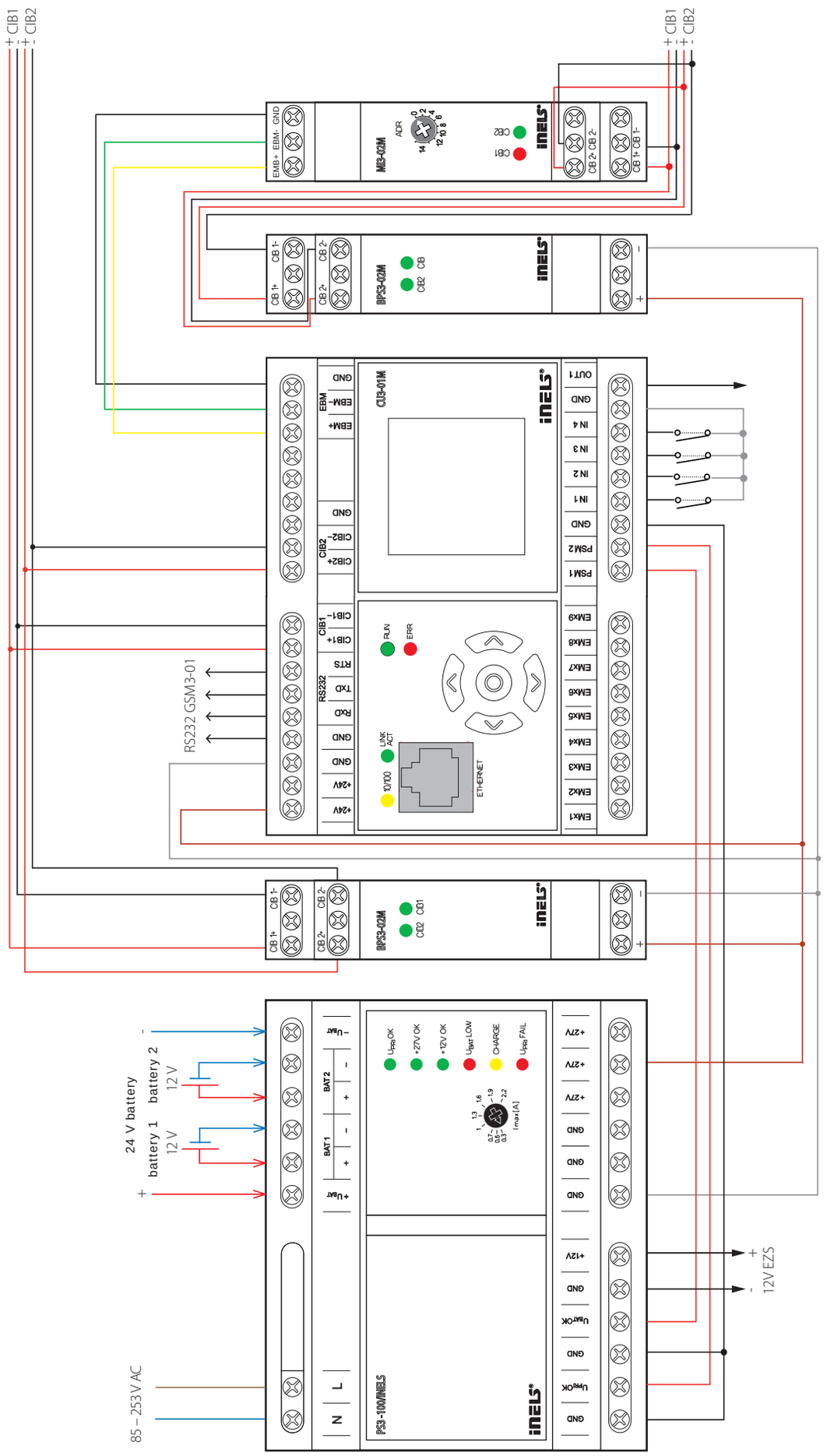
TI3-60M

T	Temperature
I	Input
3	3rd generation of iNELS
-	
6	Number of inputs
0	Number of outputs
M	Modular design

LBC3-02M

L	Lighting
B	Ballast
C	Controller
3	3rd generation of iNELS
-	
0	Number of inputs
2	Number of outputs
M	Modular design

Basic system connection with the central unit CU3-01M



EAN code

CU3-01M: 8595188132220

TECHNICAL PARAMETERS

CU3-01M

LED indication:	green LED RUN - indicating the operating status of the unit red LED ERR - indicating major errors in CU3-01M
LED display	displays the current status and settings CU3-01M
Type:	color OLED
Resolution:	128x128 / 1:1 aspect ratio
Visible area:	26x26 mm
Controlling:	with a routing buttons
Memory:	Internal memory up to 256 MB Flash slot for micro SD card (backup data)
Max. size of SD card:	4 GB (FAT 32)
The internal real-time clock:	accuracy: 1s/day at 23 °C
Backup real-time and user programming:	14 days

INPUTS

Inputs:	4x connectors or disconnectors to GND (-) 2 PSM (power monitoring / status AKU) to GND (-)
Expandable with modules:	DMX, DALI, CAN, M-BUS ...

OUTPUTS

Output:	relay output- NC/GND only for EZS
Number of connected units (directly to the CU3-01M)	max. 64 (2x32)
Expansion possibilities through external bus master:	up to 576 units (CU3-01M and 8x MI3-02M)

COMMUNICATION

CIB	
Maximum number of units:	max. 32
Maximum cable length:	max. 550 m

System bus EBM	
Maximum cable length:	max. 500 m
Number of connected ext. masters:	up to 8

RS232 bus communication	
Maximum cable length:	max. 10 m
Connection options:	GSM module

Ethernet	
Connector:	RJ45 on the front panel
Communication speed:	10/100 Mbps
Indication of the Ethernet:	Green - Ethernet communication Yellow - Ethernet speed 10/100 Mbps

The default IP address:	192.168.1.1 The set-up IP address can be displayed on the screen

- It is the brain of the iNELS system, a „mediator" between user's programming environment and other sensors and actuators connected to the bus.
- It's possible to directly connect up to 2 CIB buses in CU3-01M, and on each bus we can connect up to 32 iNELS units of any type.
- Additional units can be connected via MI3-02M extension modules, which connects to CU3-01M on the EBM bus.
- Power supply controlling system - network voltage and the status of the backup battery.
- Possibility of setting time synchronization via NTP server.
- The RJ45 Ethernet port's connector is located on the front panel of the unit, the transmission speed is 10 or 100 Mbps.
- For CU3-01M it is possible to use 4 potential-free inputs for connecting external controllers (buttons, switches, sensors, detectors, etc.).
- CU3-01M comes with OLED display that shows the current status and configuration of CU3-01M central unit.
- CU3-01M can be controlled using the directional buttons on the front panel.
- CU3-01M comes in 6-MODULE is designed for mounting into a switchboard on the EN60715 DIN rail.

CIB Bus installation:

- Two-wired bus with an arbitrary topology (not only to be as closed circle).
- With its own modulated communications on the DC voltage supply.
- One branch allows you to connect up to 32 units.
- The current load of one branch is max. 1 A
- Maximum length of the bus is 550 m
- Recommended cable :
  - twisted shielded pair of cross sectional area 0.8 mm^2
  - for example: 2170240 UNITRONIC BUS EIB 2x2x0.8 4000V (LAPP cable) to be used when laying in parallel with power lines
  - for example: 1591501 J-Y(ST)Y LG 2x2x0.8 800V (LAPP KABEL)
  - for example: YCYM 2x2x0.8

The EBM System Bus:

- Is used to connect the CU3-01M central unit with up to eight MI3-02M external masters.
- Strictly linear topology.
- Max. length of the bus is 500m.
- The bus has to be terminated at both ends.
  - implemented on the central unit side directly inside the unit
  - it's necessary to insert a 120 Ω resistance between the EBM +and EBM- terminals at the last MI3-02M external master.
- Cabling:
  - shielded cables designed for RS-485, cross-section 0.8mm^2
  - for example: J-Y(ST)Y 2x2x0.8, YCYM 2x2x0.8

POWER SUPPLY

Supply voltage:	20-30 V DC
Ideal supply voltage:	27 V DC
Rated current:	110mA

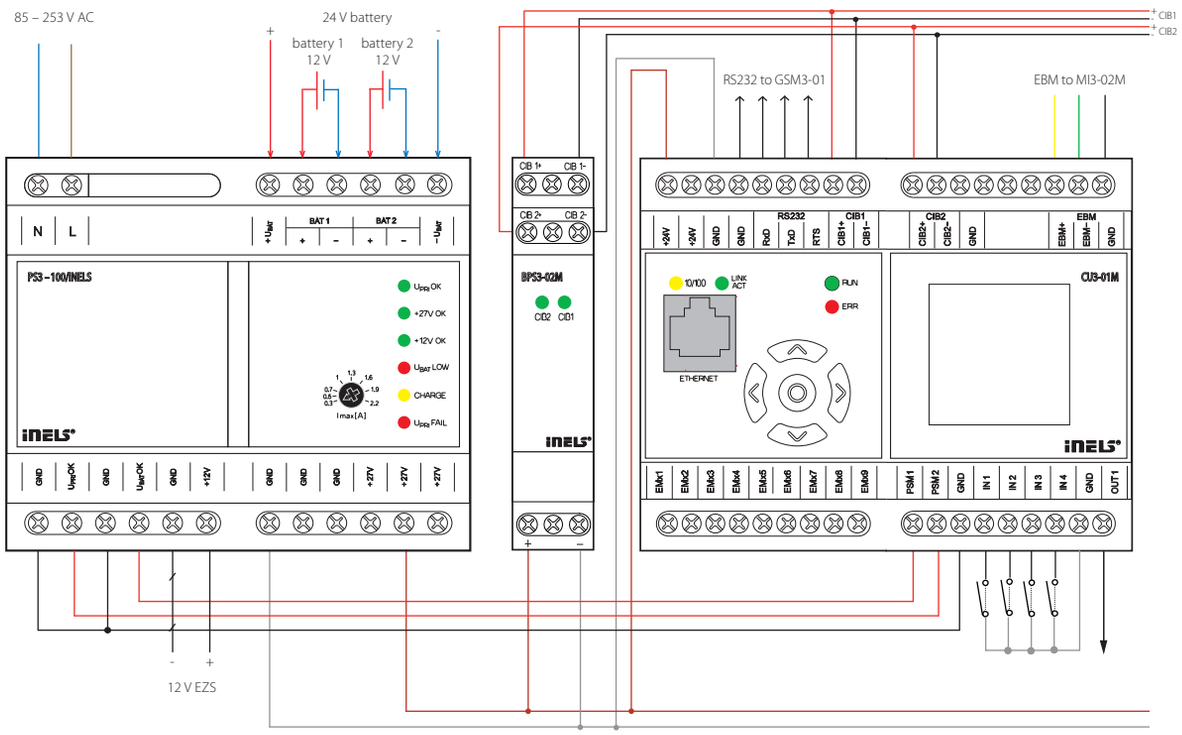
OPERATING CONDITIONS

Working temperature:	-20 .. +55 °C
Storage temperature:	-25 .. +70 °C
Humidity:	max. 80%
Degree of protection:	IP 20 devices, with cover in the switchboard
Overvoltage category:	II.
Degree of pollution:	2
Operating position:	any
installation:	to the switching board on the EN60715 DIN rail
Design:	6-MODULE
Terminal:	max. 2.5 mm^2

DIMENSIONS AND WEIGHT

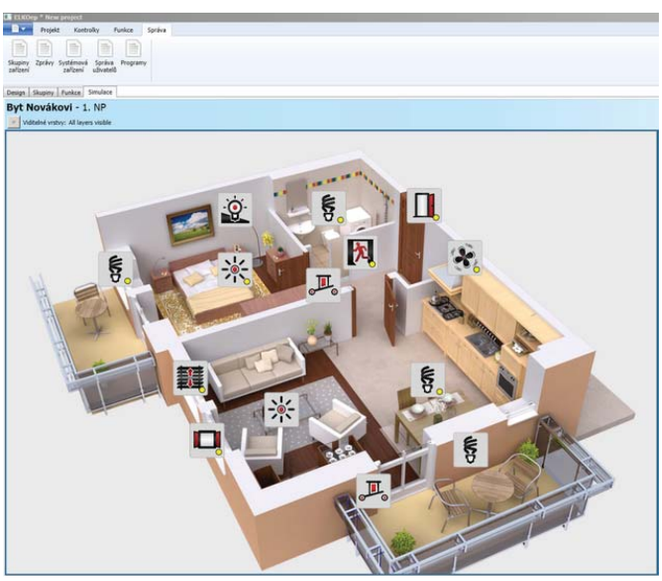
Dimensions:	90 x 105 x 65 mm
Weights:	250 g

- The configurations of the unit and the whole system are done via Ethernet, through INELS Designer and Manager (IDM), which is designed for MS Windows operating system, XP, W7, W8.
- CU3-01M can be configurated and controlled via the internet (if the unit is connected to Internet through LAN).
- It's possible to remotely control user's functions through internet browser (PC, smart phone, tablet) using the built-in web server CU3-01M.
- The IDM Software offers a wide range of programming features.
- Through CU3-01M is possible to remotely upgrade firmware on the connected bus units.
- Supported Software:
  - Parameterization, configuration, control and visualization: iNELS Designer & Manager
  - Promoting free programming according to IEC 61131-3 (in preparation).



iNELS Designer & Manager

- iNELS Designer & Manager (IDM) is a programming environment, which is designed for creating projects for iNELS BUS System's installations with the CU3-01M central unit.
- IDM allows management to address the requirements of lighting, blinds or shutters, heating, air conditioning to the overall supervision of the installation and alarm reporting.
- IDM provides the following:
  - The possibility of automatic numbering project
  - Easy-shifting of units for superior masters
  - Filtering units by name
  - Filtering units by type (switching, dimming, etc.)
  - Sorting units in the list according to their definitions (type, hardware address, unit name ...)
  - Visualization of the bus in terms of HW addresses's number
  - Visualization of the bus in terms of the current load
  - Creating of the floors
  - Creating layers in these levels (up to 5 layers)
  - Visibility settings / invisibility of the individual layers
  - Assignment floor plan or only the color the base
  - Possibility to zoom in floor plan
  - The number of units on the web server is not restricted
  - The possibility of entering multiple conditions
  - The possibility of comparing different variables
  - Visualization of the connections between the elements or element groups
  - The possibility of adding custom chart icons
  - The possibility of simulation functions
  - Comprehensive list of individual connections
  - The possibility of breakdown elements into logical groups
  - The possibility of using timers and counters
  - Transparent management of users and their roles
  - Create an unlimited number of heating programs
  - Signalizing the status of units



- Stabilized switching power supply, with the total power of 100 W
- It is used to supply central units within intelligent electro-installation iNELS
- It is used in MaR field (measurement and regulations)
- Fixed output voltage DC 27 V and DC 12 V, galvanically isolated from the mains
- Power source of 27 V and 12 V to the GND
- Electronic short circuit protection, high-capacity and thermal overload, over voltage
- UPS functions - backup outputs 24 V and 12 V batteries connected backup
- Recharging the batteries from 27 V source
- Protection battery backup fuse - protection against short circuit and reverse polarity battery
- Continuously adjustable maximum battery charging current
- Indication of operating and fault conditions 6 LED diodes on the front panel of the power supply
- 2 STATUS outputs with open collector for reporting operational status of the source
- Source supplies power to the priority system iNELS, the remaining power is used for rechargeable batteries
- When the battery is fully discharged, the battery is automatically disconnected from the load

EAN code

PS3-100/iNELS: 8595188131568

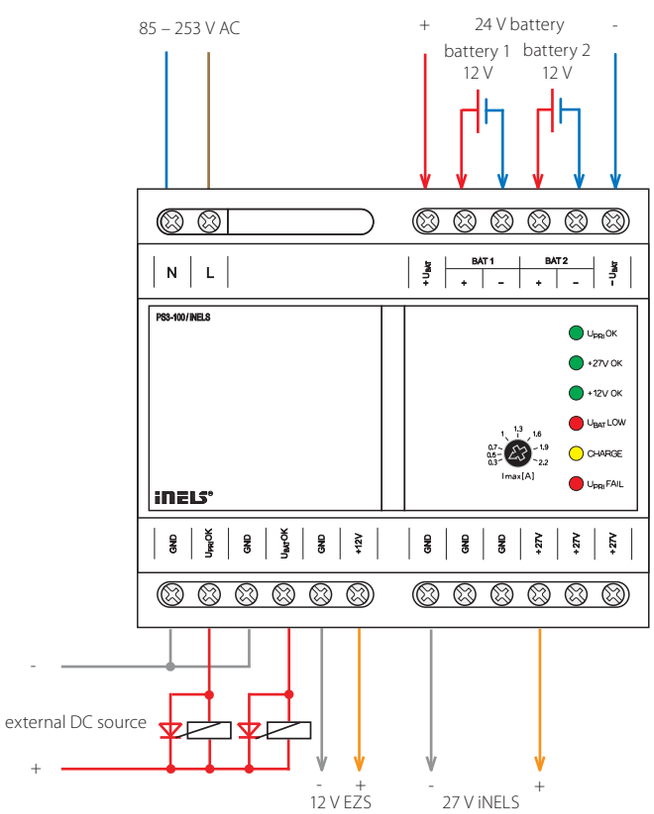
Description of device functions

The device consists of several functional blocks.

The basic part is 100 W power supply with 2 output voltage levels. Voltage of 27.6 V is used to supply the system iNELS and to recharge the batteries. Voltage of 12.2 V is for power as intrusion detectors (PZTS) or EPS. Both voltages are available without interruption during power AC power supply (UPS function) - assuming they are connected backup battery. Other parts of the source circuits are back up and recharge the batteries, which provide switching mode connection, charging and disconnect the battery. When in the backup mode, the battery is completely discharged, the circuit is immediately switched off to avoid the deep discharge. It is guarded by a maximum discharge current - in his crossing of the batteries are also disconnected. Works if the power supply (oscillations) and its output voltage is greater than 26.9 V, the backup battery charged shock, the maximum value is set by trimmer on the panel source. When charging the yellow LED CHARGE. Source priority iNELS powers the system and the remaining capacity of up to 100 W only recharges the battery. If the output is high stress and tension source drops below 26.5 V, UPRI OK LED turns off and disconnects the charge (off and yellow LED CHARGE). Upon further increasing the load further decreases the voltage source and the load current also flows from the battery (power supply and battery power to the load together). Note: If the source is disconnected from the network (does not oscillate) and connect the battery now, remain disconnected the battery and power outputs are energized. The activation must be connected to the power supply voltage. The last part of the unit signaling circuits and status outputs. STATUS outputs (see technical data) are equipped with current limiting, so they can directly ballasts without external resistors switched signaling components (e.g. LED, optocouplers or relay coil).

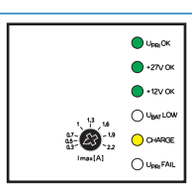
Features LED indication is given in the specifications and in the table below are some examples.

Example of connection

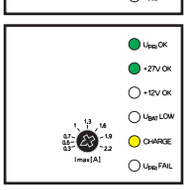


LED Signalization

operating switching power supply
output voltage of 27V in order
output voltage of 12 V in order
batteries are recharged

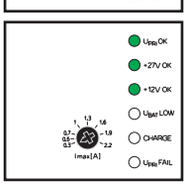


operating switching power supply
output voltage of 27V in order
output voltage is 12 V (short circuit, overload)
batteries are recharged

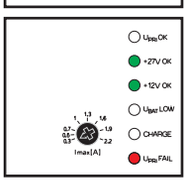


external DC source

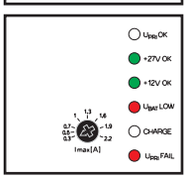
switching power supply operates
output voltage of 27V in order
output voltage of 12 V in order
source is loaded - battery is not charging



UPS mode
output voltage of 27V in order
output voltage of 12 V in order
battery voltage in order



UPS mode
output voltage of 27V in order
output voltage of 12 V in order
Low Battery



TECHNICAL PARAMETERS

AC INPUT

Power supply:	85 - 253 V AC/ 50 - 60 Hz
Power load:	max. 13 VA/ 2 W
Power consumption at maximum load:	max. 180 VA/ 111 W
Protection:	- safety fuse T3, 15 A inside the unit - electronic protection (short circuit current and thermal overload)

DC INPUT

Power supply:	- DC 24V (two 12V batteries in series)
Protection:	-safety fuse F6, 3 A inside the unit - electronic protection against current overload
Terminals for connecting the battery:	- each battery separately - separately routed extreme terminals (24)
Automatic disconnect the battery:	- for the battery voltage <21 V - when exceeding discharge current 4.2 A

OUTPUTS

Output voltage 1	27.6 V
Max. capacity	3.6 A
Output voltage 2	12.2 V
Max. capacity	0.35 A
The overall efficiency of resources	about 88%
Time delay after connecting to the AC network	up to 1 s
Max. Charging current	adjustable from 0.2 to 2.2 A

LED SIGNALIZATION

Switching power supply works during (oscillations), U> 26.5 V	green LED Upri OK
Switching power supply does not work (does not oscillate)	flashing red LED Upri FAIL
Output voltage 27 V OK	green LED + 27 V OK
Output voltage 12 V OK (U> 11 V)	green LED + 12 V OK
Low battery voltage (U <24 V)	red LED Ubat LOW
Charging the battery	yellow LED CHARGE

OUTPUT STATUS

STATUS output 1:	closed if Upri is OK
STATUS output 2:	closed when the battery voltage> 24 V
Output Type:	open collector current limited
Max. connectable voltage:	50 V DC
Max. current output:	50 mA
The voltage drop on the switch max:	at 10 mA ... 140 mV at 30 mA ... 400 mV at 50 mA ... 700 mV

OTHER DATA

Electric strength AC input - output:	4 kV
The connection terminals:	row
Cable size (mm^2):	max. 1 x 2.5, max. 2 x 1.5 (with sleeve max. 1 x 1.5)
Operating temperature:	-20 °C ... +55 °C
Storage Temperature:	-30 °C ... +70 °C
Working humidity:	20 ... 90 % RH
Cover:	IP40 front panel, IP20 terminals
Overvoltage category:	III.
Degree of pollution:	2
Working position:	arbitrary, the optimal vertical
Installation:	on the DIN rail EN60715
Execution:	6-MODULE
Dimensions:	90 x 105 x 65 mm
Weight:	392 g
Related standards:	General: EN61204 Safety: EN61204-7 EMC: EN61204-3

EAN code

MI3-02M 8595188132411

- Provides expansion of the amount of units connected to the central unit CU3-01M for 64 units
- The MI3-02M is possible to connect up to two CIB, to each bus can connect up to 32 units of any type
- To a central unit it is possible to connect up to 8 modules MI3-02M via the system bus EBM
- In conjunction with the central unit CU3-01M it is possible to achieve the maximum capacity of the bus iNELS to 576 units
- Address MI3-02M is set by rotary switch on the front panel, the address must be in the bus EBM unique
- It is necessary to use the bus separator BPS3-02M (BPS3-01M) for bus CIB power supply. MI3-02M is supplied directly from bus CIB1
- Status signalization of each bus (operation, fault) is indicated by two-color LEDs on the front panel of the module
- The last MI2-02M connected to the EBM bus must be closed with a 120 Ω termination resistor
- MI3-02M in 1-MODULE version is designed for mounting into switchboard, on DIN rail EN60715

TECHNICAL PARAMETERS

OUTPUTS

Number of connected units:	max. 64 (2x32)

COMMUNICATION

Installation BUS:	2 x CIB
Data BUS:	EBM
Unit status indication:	green LED
Bus fault indication:	red LED
Length of BUS CIB wire:	max 1100 m (2x550 m)
Length of BUS EBM wire:	max 500 m

POWER SUPPLY

Supply voltage:	20-30 V DC
Ideal supply voltage:	27 V DC
Rated current:	25 mA

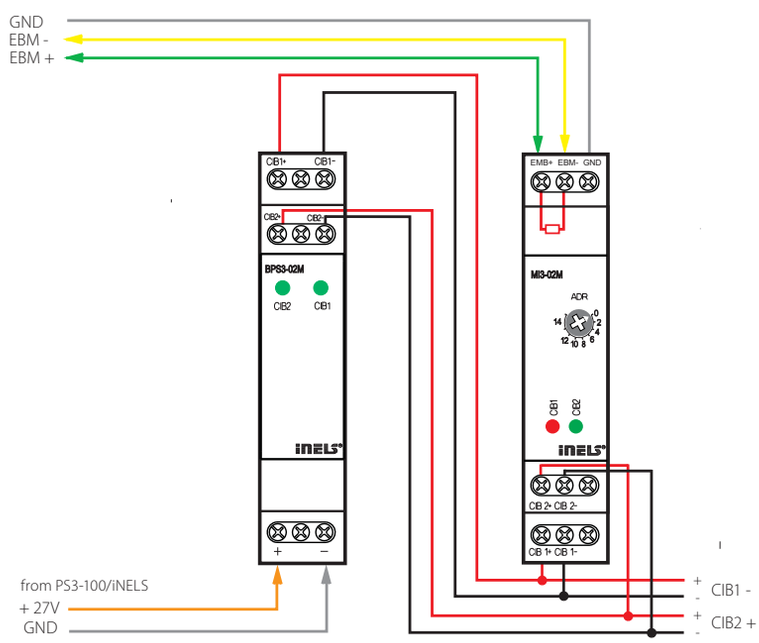
OPERATING CONDITIONS

Operating temperature:	-20 .. +55 °C
Storage temperature:	-25 .. +70 °C
Humidity:	max. 80 %
Protection degree:	IP20 device, IP40 mounting in the switchboard
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	in a switchboard on DIN rail EN 60715
Design:	1-MODULE
Terminal:	max. 2.5 mm²

DIMENSIONS AND WEIGHT

Dimensions:	90 x 18 x 65 mm
Weight:	80 g

Example of connection



BPS3-01M

BPS3-02M

- It serves for impedance separation of CIB from supply voltage power
- BPS3-01M allows you to connect one bus CIB
- BPS3-02M allows you to connect two separate CIB1 and CIB2
- Outputs are equipped with overcurrent and overvoltage protection
- Indication of output voltage outputs CIB LED
- BPS3-01M and BPS3-02M in 1-MODULE version is designed for mounting into switchboard, on DIN rail EN60715.

EAN code

BPS3-01M 8595188132442

EAN code

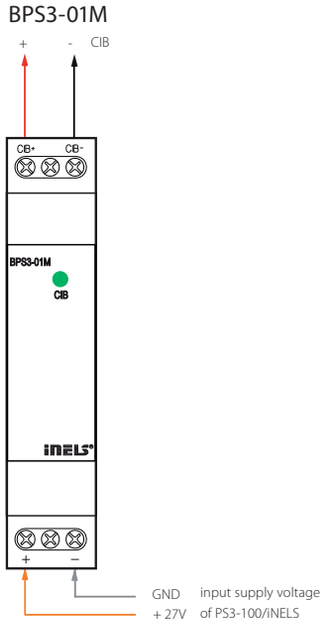
BPS3-02M 8595188132435

TECHNICAL PARAMETERS

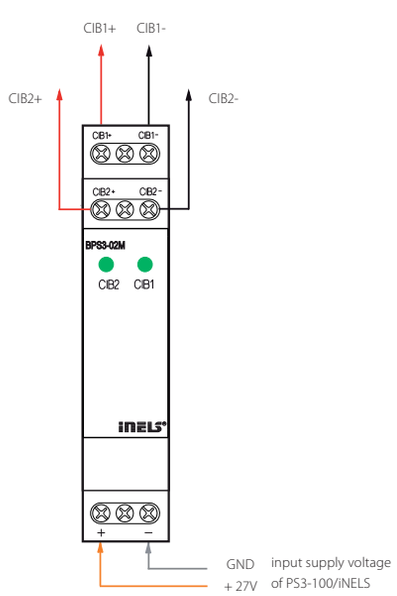
OUTPUTS	BPS3-01M	BPS3-02M
Voltage CIB:	20-30 V DC	2 x 20-30 V DC
Maximum capacity:	3A	2 x 1A
COMMUNICATION		
Installation BUS:	1x CIB	2 x CIB
POWER SUPPLY		
Supply voltage:	20-30 V DC	
Rated current:	max. 8 mA	max. 15 mA
Status indication voltage on terminals:	1 x green LED	2 x green LED
CONNECTION		
Terminals:	max. 2.5 mm²/1.5 mm² with sleeve	
OPERATING CONDITIONS		
Operating temperature:	-20 .. +55 °C	
Storage temperature:	-30 .. +70 °C	
Protection degree:	IP20 device, IP40 mouting in to the switchboard	
Overvoltage category:	II.	
Pollution degree:	2	
Operating position:	any	
Installation:	in a switchboard on DIN rail EN 60715	
Design:	1-MODULE	
DIMENSIONS ANDWEIGHT		
Dimensions:	90x17.5x64 mm	
Weight:	46 g	53 g

Example of connection

BPS3-01M



BPS3-02M



EAN code

GSM3-01 8595188132428

External antenna AN-E 859415759012

- It serves for communication with iNELS system via commands sent in short SMS messages from mobile phone GSM
- Via GSM3-01 and mobile phone you can control the system as well as system can inform you back by sms or ringing
- Max. capacity of GSM3-01 is 32 phone numbers, 48 outgoing and 32 incoming SMS messages. Max. length of SMS is 20 symbols
- GSM3-01 IDM can through software-defined numbers to dial, ring 20 s and disconnected. It can also perform actions on incoming calls
- GSM3-01 can also serve as a transmitter SMS messages when intruders or alert to a security agency
- Operating range is 850, 900 as well as 1800, 1900 MHz (quad-band)
- SIM card is inserted into the unit from the front panel
- Connector Mini USB for service purposes
- GSM3-01 communicate directly with CU3-01M by RS232
- The package includes an external magnetic antenna (cable 3m, 5 db gain), which is connected to the connector RSMA (F) on the front panel
- GSM3-01 in 3-MODULE version is designed for mounting into a switchboard, on DIN rail EN60715

TECHNICAL PARAMETERS

COMMUNICATION

Communication interface:	RS232, to communicate with CU3-01M
GSM network (Quad-band) :	850/900/1800/1900 MHz
Transmitter output power:	2W for GSM 900, 1W for GSM 1800
Number of informative SMS:	max. 80 (48+32)
Number of stored numbers:	max. 32
Transmission indication:	red LED

POWER SUPPLY

Supply voltage/rated current:	27 V DC/250 mA
Suppy voltage indication:	green LED

CONNECTION

Terminals:	max. 2.5 mm^2/1.5 mm^2 with sleeve

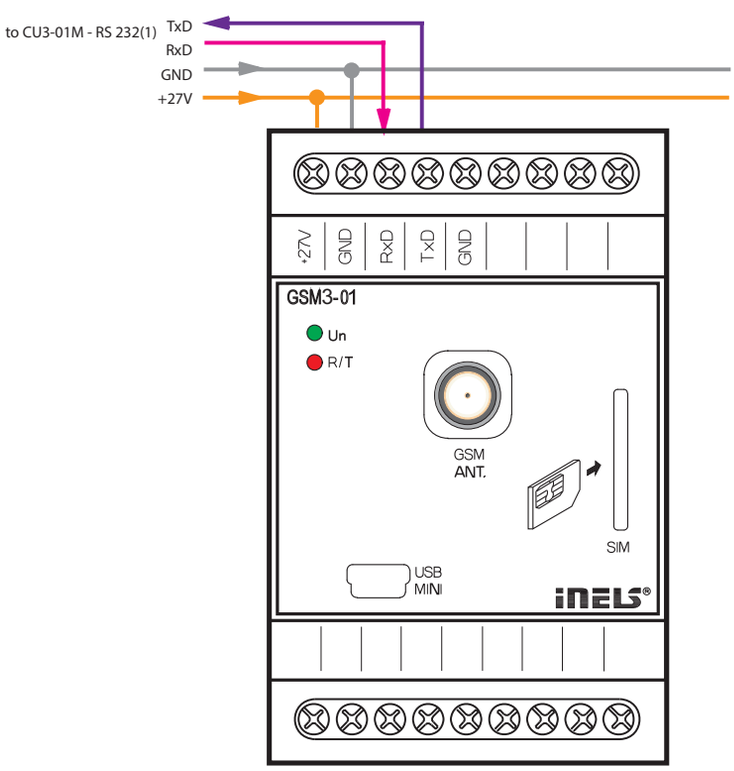
OPERATING CONDITIONS

Operation temperature:	-20 .. +55 °C
Storing temperature:	-30 .. +70 °C
Protection degree:	20 IP devices, 40 IP with cover in switchboard
Overvoltage category:	II.
Pollution degree:	2
Operation position :	any
Installation:	to DIN rail EN 60715
Design:	3-MODULE

DIMENSIONS AND WEIGHT

Dimensions:	90 x 52 x 65 mm
Weight:	128 g

Example of connection



EAN code

SA3-02M 8595188132374

- It serves for switching of various appliances and loads with potentialless contact.
- SA3-02M contains 2 independent relays with changeover potentialless contacts.
- Maximum load per contact is 16 A/4000 VA/AC1.
- Each of the two output contacts are individually controllable and addressable.
- LED's on front panel signal status of each output.
- Contact status of each relay can be changed separately and manually by control buttons on a front panel.
- SA3 is normally supplied in the option $AgSnO_2$ contact material, it can be supplied with contact AgNi by request.
- SA3-02M in 1-MODULE version is designed for mounting into a switchboard, on DIN rail EN60715.

TECHNICAL PARAMETERS

OUTPUTS

Output:	2x switching 16 A/AC1
Switching voltage:	250 V AC1, 24 V DC
Switching load:	4000 VA/AC1, 384 W/DC
Surge current:	30 A/<3s
Insulation voltage between outputs and built-in circuits:	3.75 kV, SELV dle EN 60950
Insulation voltage between output relays RE1 and RE2:	1000 V AC
Minimal switching current:	100 mA
Switching frequency/no load:	1200 min^{-1}
Switching frequency/rated load:	6 min^{-1}
Mechanical lifetime:	3 x 10^7
Electrical lifetime AC1:	0.7 x 10^5
Outputs indication:	2x red LED

COMMUNICATION

Installation BUS:	CIB

POWER SUPPLY

Supply voltage/rated current:	27 V DC/35 mA, from CIB BUS
Status indication unit:	green LED RUN

CONNECTION

Terminal:	max. 2.5 mm^2/1.5 mm^2 with sleeve

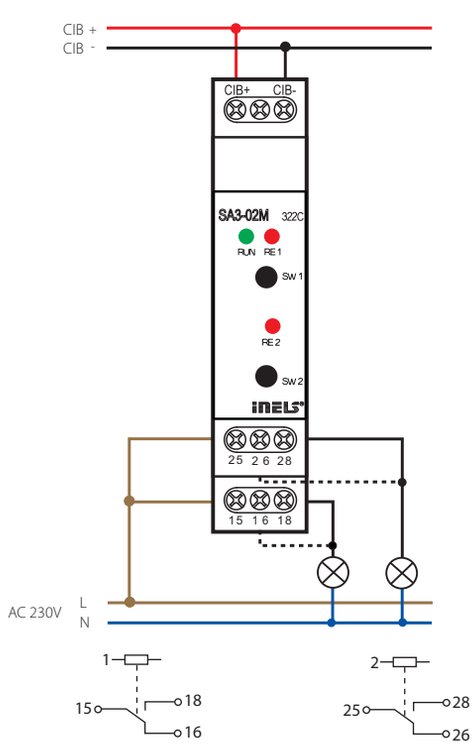
OPERATING CONDITIONS

Operation temperature:	-20 .. +55 °C
Storing temperature:	-30 .. +70 °C
Protection degree:	IP 20 device, IP 40 mounting in the switchboard
Control device purpose:	operative control device
Control device constuction:	individual control device
Automatic operation characteristic:	1.B.E
Heat and fi re resistance category:	FR-0
Anti-stroke category (immunity):	class 2
Rated impulse voltage:	2.5 kV
Overvoltage category:	II.
Pollution degree:	2
Operation position:	any
Installation:	switchboard on DIN rail EN 60715
Design:	1-MODUL

DIMENSIONS AND WEIGHT

Dimensions:	90 x 18 x 65 mm
Weight:	82 g

Example of connection



EAN code
SA3-04M 8595188132381

- It serves for switching of various appliances and loads with potentialless contact.
- SA3-04M contains 4 independent relays with changeover potentialless contacts.
- Maximum load per contact is 16 A/4000 VA/AC1.
- Each of the two output contacts are individually controllable and addressable.
- LED's on front panel signal status of each output.
- Contact status of each relay can be changed separately and manually by control buttons on a front panel.
- SA3 is normally supplied in the option $AgSnO_2$ contact material, it can be supplied with contact AgNi by request.
- SA3-04M in 3-MODULE version is designed for mounting into a switchboard, on DIN rail EN60715.

TECHNICAL PARAMETERS

OUTPUTS

Output:	4 x NC 16 A/AC1
Switching voltage:	250 V AC1, 24 V DC
Switching output:	4000 VA/AC1, 384 W/DC
Surge current:	30 A/<3s
Insulation voltage between outputs and internal circuits:	3.75 kV, SELV by EN 60950
Insulation voltage between individual relay outputs RE1 to RE4:	1000 V AC
Min. switched current:	100 mA
Switching frequency /no load:	1200 min^{-1}
Switching frequency/rated load:	6 min^{-1}
Mechanical life:	3 x 10^7
Electrical life AC1:	0.7 x 10^5
Output indication:	4x yellow LED

COMMUNICATION

Installation BUS:	CIB

POWER SUPPLY

Supply voltage/rated current:	27 V DC/70 mA, from CIB BUS
Status indication unit:	green LED RUN

CONNECTION

Terminal:	max. 2.5 mm^2/1.5 mm^2 with sleeve

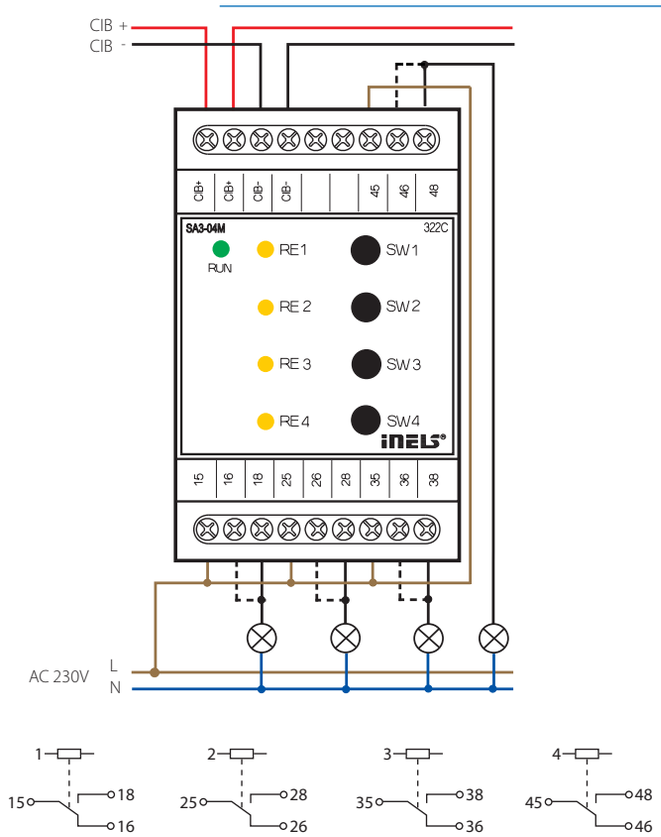
OPERATING CONDITIONS

Operation temperature:	-20 .. +55 °C
Storing temperature:	-30 .. +70 °C
Protection degree:	IP 20 device, IP 40 mounting in the switchboard
Control device purpose:	operative control device
Control device constuction:	individual control device
Automatic operation characteristic:	1.B.E
Heat and fi re resistance category:	FR-0
Anti-stroke category (immunity):	class 2
Rated impulse voltage:	2.5 kV
Overvoltage category:	II.
Pollution degree:	2
Operation position:	any
Installation:	switchboard on DIN rail EN 60715
Design:	3-MODUL

DIMENSIONS AND WEIGHT

Dimensions:	90 x 52 x 65 mm
Weight:	161 g

Example of connection:



EAN code
SA3-06M : 8595188132879

- It is designed for switching of various appliances and loads with potentialless contact
- SA3-06M contains 6 independent relays with changeover potentialless contacts
- Maximum load per contact is 8 A/2000 VA/AC1
- Each of four output contacts are individually controllable and addressable
- LED's on front panel signal status of each output
- Contact status of each relay can be changed separately and manually by control buttons on a front panel
- SA3 is normally supplied in the option $AgSnO_2$ contact material, it can be supplied with contact AgNi by request
- SA3-06M in 3-MODULE version is designed for mounting into a switchboard/DIN rail

TECHNICAL PARAMETERS

OUTPUTS

Output:	6 x NO 8 A/AC1
Switching voltage:	250 V AC1, 24 V DC
Switching output:	2000 VA/AC1, 192 W/DC
Surge current:	20 A/<3s
Insulation voltage between outputs and internal circuits:	3.75 kV, SELV by EN 60950
Insulation voltage between individual relay outputs PUTS RE1-RE4; RE5-RE6:	1000 V AC
Min. switched current:	10 mA/ 10V
Switching frequency /no load:	300 min^{-1}
Switching frequency/rated load:	15 min^{-1}
Mechanical life:	1 x 10^7
Electrical life AC1:	1 x 10^5
Output indication:	6x yellow LED

COMMUNICATION

Installation BUS:	CIB

POWER SUPPLY

Supply voltage/rated current:	27 V DC/100 mA, from CIB BUS
Status indication unit:	green LED RUN

CONNECTION

Terminal:	max. 2.5 mm^2/1.5 mm^2 with sleeve

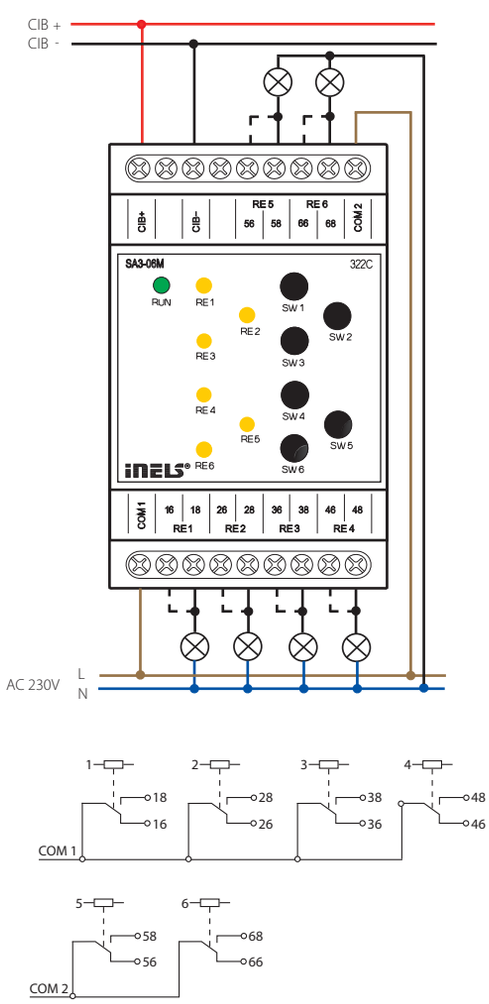
OPERATING CONDITIONS

Operation temperature:	-20 .. +55 °C
Storing temperature:	-30 .. +70 °C
Protection degree:	IP 20 device, IP 40 mounting in the switchboard
Control device purpose:	operative control device
Control device constuction:	individual control device
Automatic operation characteristic:	1.B.E
Heat and fi re resistance category:	FR-0
Anti-stroke category (immunity):	class 2
Rated impulse voltage:	2.5 kV
Overvoltage category:	II.
Pollution degree:	2
Operation position:	any
Installation:	switchboard on DIN rail EN 60715
Design:	3-MODULE

DIMENSIONS AND WEIGHT

Dimensions:	90 x 52 x 65 mm
Weight:	256 g

Example of connection



EAN code

SA3-012M 8595188132466

- It used for switching various appliances and loads
- SA3-012M contains 12 independent relays with NO potentialless contacts, with the fact that each of quaternion relay switches the same potential
- Maximal loadability of contact is 8 A/2000 VA/AC1
- Each of the twelve output contacts are individually controllable and addressable
- LED on front panel signalizes state of each output
- Contact status of each relay can be changed separately and manually by control buttons on a front panel
- SA3-012Mis normally supplied in the option $AgSnO_2$ contact material, the order can be supplied with contact AgNi by request
- SA3-012M in design 6-MODULE is designed to be mounted into a switchboard, onto DIN rail EN60715.
- CIB is galvanically separated from the internal circuits

TECHNICAL PARAMETERS

OUTPUTS

Output:	12 x NO 8 A/AC1
Switched voltage:	250 V AC1, 30 V DC
Switched output:	2000 VA/AC1, 240 W/DC
Peak current:	20 A/<3s
Insulation voltage between relay outputs and internal circuits:	3.75 kV, SELV by EN 60950
Insulation voltage between individual relay outputs RE1-RE4; RE5-RE8; RE9-RE12:	1000 V AC
Max. current by common terminal:	16 A
Minimal switched current:	10 mA / 10 V
Switching frequency without load:	300 min^{-1}
Switching frequency with rated load:	15 min^{-1}
Mechanical life:	1 x 10^7
Electrical life AC1:	1 x 10^5
Output indication:	12 x yellow LED

COMMUNICATION

Installation BUS:	CIB
Status indication unit:	green LED RUN

POWER SUPPLY

Supply voltage/rated current:	230V AC/50 mA

CONNECTION

Terminal:	max. 2.5 mm^2/1.5 mm^2 with sleeve

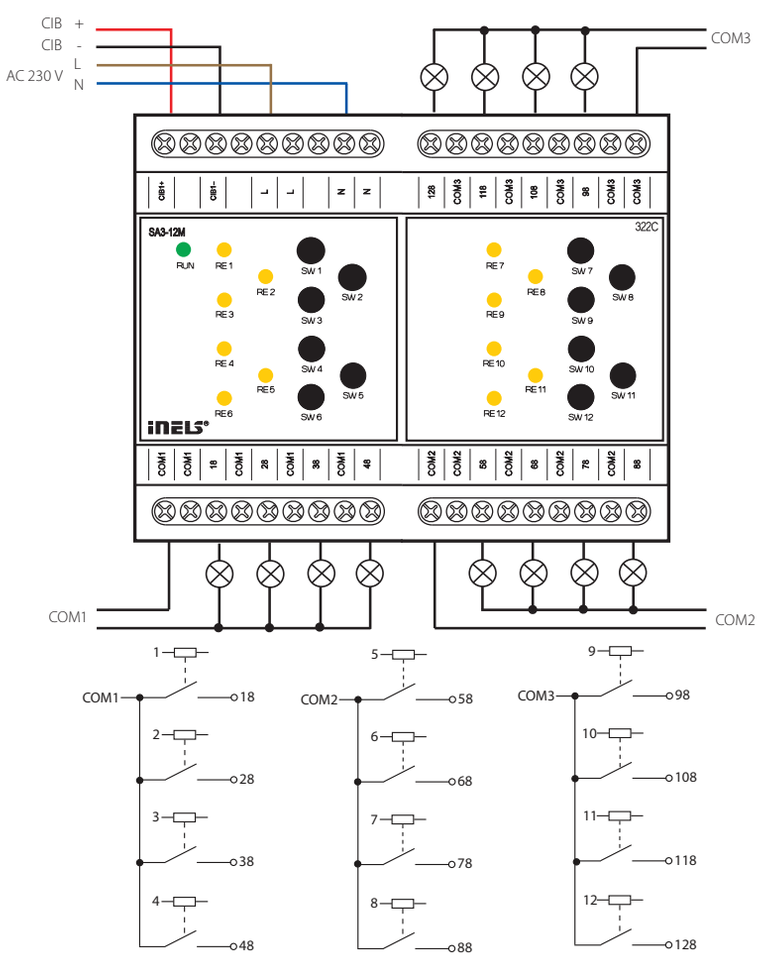
OPERATING CONDITIONS

Operation temperature:	-20 .. +55 °C
Storing temperature:	-30 .. +70 °C
Protection degree:	IP 20 device, IP 40 mounting in the switchboard
Control device purpose:	operative control device
Control device constuction:	individual control device
Automatic operation characteristic:	1.B.E
Heat and fi re resistance category:	FR-0
Anti-stroke category (immunity):	class 2
Rated impulse voltage:	2.5 kV
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	switchboard on DIN rail EN 60715
Design:	6-MODULE

DIMENSIONS AND WEIGHT

Dimensions:	90 x 105 x 65 mm
Weight:	460 g

Example of connection



SA3-01B

SA3-02B

- It is used for potentialless contact switching of appliances and loads.
- SA3-01B contains 1 relay with potentialless contact with max. load 16A/4000 VA/AC1.
- SA3-02B contains 2 relays with potentialless contacts with max. load 8A/2000 VA/AC1.
- Output contacts are separately controllable and addressable.
- LED on front panel signals output contact status.
- SA3 is normally supplied in the option $AgSnO_2$ contact material. It can be supplied with contact AgNi by request.
- SA3-01B, SA3-02B are designed for mounting into the installation box.

EAN code

SA3-01B 8595188132350

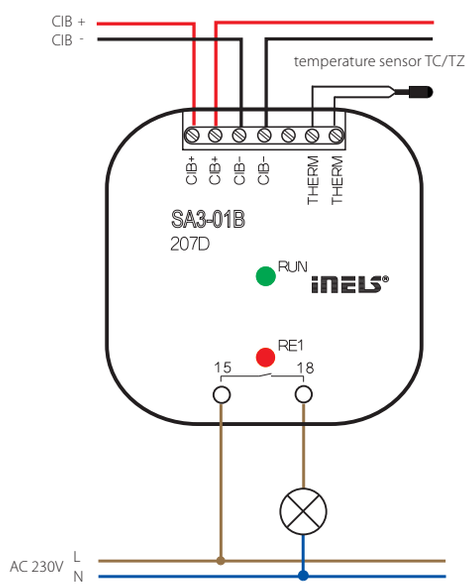
EAN code

SA3-02B 8595188132367

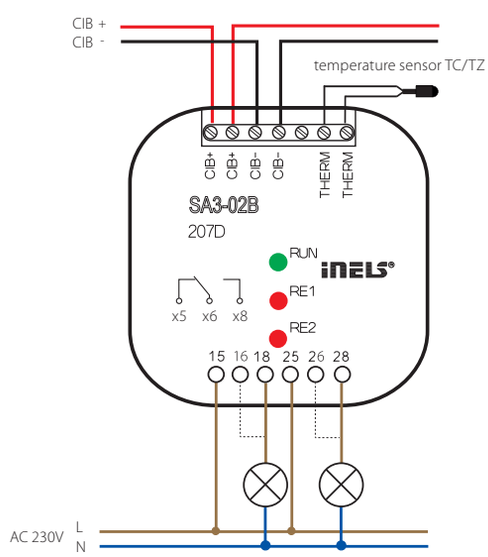
TECHNICAL PARAMETERS

INPUTS	SA3-01B	SA3-02B
Temperature measuring:	Yes, input for external thermo sensor TC, TZ	
Scope and accuracy of tem. meas.:	-20 .. +100°C; 0.5°C from the range	
OUTPUTS		
Output:	1x NO 16 A/AC1	2 x NC 8 A/AC1
Switching voltage:	250 V AC1, 24 V DC	
Switched load:	4000 VA/AC1, 384 W/DC	2000 VA/AC1, 192 W/DC
Surge current:	30 A/<3s	
Insulation voltage between outputs and built-in circuits:	3.75 kV, SELV by EN 60950	
Insulation voltage between relay outputs RE1-RE2:	x	1000 V AC
Minimal switching current:	100 mA	100 mA/10 V
Switching frequency/no load:	1200 min^{-1}	300 min^{-1}
Switching frequency/rated load:	6 min^{-1}	15 min^{-1}
Mechanical lifetime:	3 x 10^7	1 x 10^7
Electrical lifetime for AC1:	0.7 x 10^5	1 x 10^5
Output indication:	red LED	2x red LED
COMMUNICATION		
Installation BUS:	CIB	
POWER SUPPLY		
Supply voltage/rated current:	27 V DC/40 mA	27 V DC/60 mA
Status indication unit:	green LED RUN	
CONNECTION		
Data terminals:	terminal, 0.5 - 1 mm^2	
Power outputs:	2x conduct. CY, Ø 2.5 mm^2	6x conduct. CY, Ø 0.75 mm^2
OPERATING CONDITIONS		
Operating temperature:	-20 .. +55 °C	
Storage temperature:	-30 .. +70 °C	
Protection degree:	IP 30	
Control device purpose:	operative control device	
Control device construction:	individual control device	
Characteristics of automatic operation:	1.B.E	
Heat and fire resistance category:	FR-0	
Anti-stroke category (immunity):	class 2	
Rated impulse voltage:	2.5 kV	
Overvoltage category:	II.	
Pollution degree:	2	
Operating position:	any	
Installation:	into installation box	
DIMENSIONS AND WEIGHT		
Dimensions:	49 x 49 x 21 mm	
Weight:	43 g	45 g

Example of connection SA3-01B



Example of connection SA3-02B



EAN code
JA3-02B/DC 8595188132718

- It serves for controlling Venetian blinds, shutters, garage doors, entrance gates, etc.
- It controls electrical motor, which are controlled in 2 directions and have an built-in limit switch.
- JA3-02B/DC control DC electric motor of Venetian blinds, which are inside the window pane in the inert gas. They are supplied by the 12-24V DC, where direction of motor rotation is controlled by changes in polarity. Thanks to the special driver it is possible to make fi ne adjustments to the slates. Unit is equipped with heating and overcurrent fuse, which secures outputs agains overload.
- Status of units is indicated by green LED RUN on the front panel:

  - while supply voltage is connected and the unit is not controlled by bus CIB, LED RUN shines.

  - while supply voltage is connected and the unit is controlled by bus CIB, LED RUN flashes
- Status of output contacts UP/DOWN ( ):
  - while contact UP ( ) is switched, red LED shines (orange).
  - while contact DOWN ( ) is switched, green LED shines.
- Input for temperature sensor TC/TZ (more information about sensors - see accessories).
- JA3-02B/DC is designed for mounting into installation box.

TECHNICAL PARAMETERS

INPUT

Thermo input for temperature measuring:	input for external thermo sensor TC, TZ; see accessories
Range and accuracy of thermomeasuring:	-20 .. +100°C / 0.5°C from the range

OUTPUTS

Insulative voltage between outputs and internal circuits:	3.75 kV, SELV by EN 60950
Minimal switched current:	x
Number of contacts:	x
Rated current:	0.85A*
Switched output:	x
Peak current:	1.5 A / < 3s
Switched voltage:	12 - 24 V DC
Mechanical life:	x
Electrical life:	x
Output indication UP, ( ) :	red (orange) LED
Output indication DOWN, ( ) :	green LED

COMMUNICATION

Installation BUS:	CIB

POWER SUPPLY

Supply voltage/rated current:	27 V DC/60mA, from CIB BUS
Status indication unit:	green LED RUN

CONNECTION

Data terminals:	terminal 0.5 - 1 mm^2
Power outputs:	4 x conductor CY 0.75 mm^2

OPERATING CONDITIONS

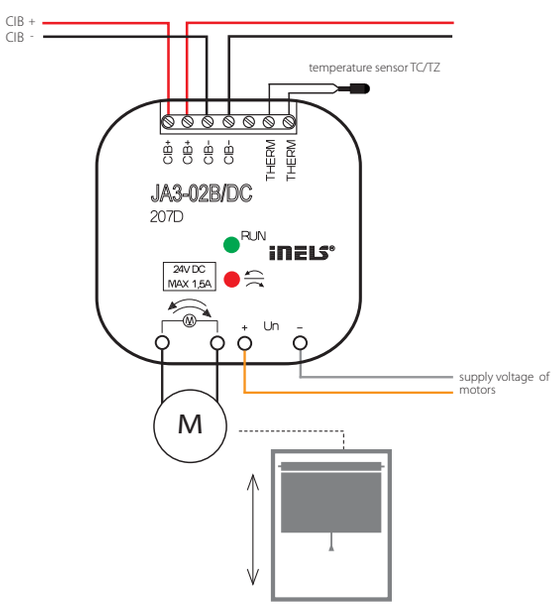
Operation temperature:	-20..+50°C
Storage temperature:	-30..+70°C
Protection degree:	IP30
Control device purpose:	operative control device
Control device construction:	individual control device
Characteristics of automatic operation:	1.B.E
Heat and fi re resistance category:	FR-0
Anti-stroke category (immunity):	class 2
Rated impulse voltage:	2.5 kV
Overvoltage category:	II.
Pollution degree:	2
Operation position:	any
Installation:	into an installation box

DIMENSIONS AND WEIGHT

Dimensions:	49 x 49 x 13 mm
Weight:	32 g

* Maximal operation time of outputs with rated current 0.85A is 10min…after that is activated output heating protection. As lower current as longer duration of protection.

Example of connection JA3-02B/DC



EAN code

DA3-22M 8595188132626

- It is used to control light intensity of dimmable energy saving lamps (ESL), LED bulbs and R, L, C with power suppl 230 V AC, but you can also use the actuator for switching appliances.
- DA3-22M integrates 2 binary inputs, which allow 230V AC voltage connection (normal wall switch contacts).
- MOSFET contactless output 230V AC, maximum load is 2x 400 VA.
- Type of light source is set by switch on the front panel.
- Setting min. brightness by potentiometer on the front panel, the flashing of different types of light sources is eliminated.
- By buttons on the front panel, you can manually switch on or off the corresponding output.
- Electronic overcurrent and thermal protection - switch off output in case of overload short circuit and overheating.
- DA3-22M in 3-MODULE version is designed for mounting into switchboard on DIN rail EN60715

TECHNICAL PARAMETERS

INPUTS

Input:	2x inputs, switching potential L
Temperature measuring:	YES, input for external thermo sensor TC/TZ
Scope and accuracy of temp. measurement:	+15 .. +35°C; 0.3°C from the range
Number of control buttons:	2x buttons, 4x potenciometers on front panel

OUTPUTS

Output:	2 contactless MOSFET 230V AC
Load type:	resistive (R), inductive (L), capacitive(C)*, LED, ESL
Galvanic separation:	YES
Insulation voltage between outputs and built-in circuits:	3.75 kV, SELV according to EN 60950
Isolation voltage between particular power:	max. 500 V AC
Minimal controlled load:	10 VA
Maximal controlled load:	400 VA for each channel
Output indication ON/OFF:	2x yellow LED
Device protection:	- thermal - short-term overload - long-term overload

COMMUNICATION

Installation BUS:	CIB

POWER SUPPLY

Supply voltage/rated current:	27 V DC/30 mA, from CIB BUS
Status indication unit:	green LED RUN

CONNECTION

Terminal:	max. 2.5 mm²/1.5 mm² with sleeve

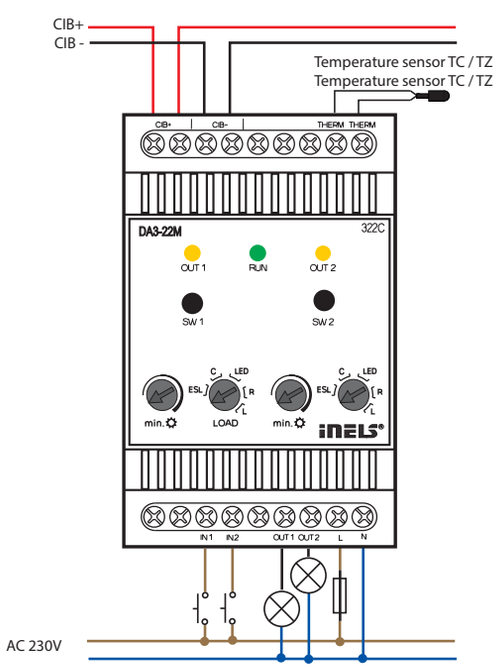
OPERATING CONDITIONS

Operating temperature:	-20 .. +35 °C
Storing temperature:	-30 .. +70 °C
Protection degree:	IP 20 device, IP 40 mounting in the switchboard
Heat and fi re resistance category:	FR-0
Anti-stroke category (immunity):	class 2
Rated impulse voltage:	2.5 kV
Overvoltage category:	II.
Pollution degree:	2
Operating position:	vertical
Installation:	switchboard on DIN rail EN 60715
Design:	3-MODULE

DIMENSIONS AND WEIGHT

Dimensions:	90 x 52 x 65 mm
Weight:	136 g

*Attention: It is not allowed, to connect loads of inductive and capacitive character, at the same time.



Types of connectable loads:

type of source	symbol	description
R resistive	HAL. 230 V	ordinary light bulb, halogen lamp
L inductive	HAL. 12-24 V	coiled transformer for low-voltage halogen lamps
C capacitive		electronic transformer for low-voltage halogen lamps
LED		LED lamps and LED light sources, 230 V
ESL		dimmable energy-saving fluorescent tubes

List of dimmable light sources can be found here: **http://www.elkoep.com/solutions/**

EAN code

LBC3-02M 8595188132688

- Designed for controlling dimming light ballasts with signal 1-10V.
- During analog voltage output 1-10V control, relay contact automatically switches power supply to light ballast (0%=relay OFF, 1-100%=relay ON)
- LBC3-02M contains 2 independent analog voltage outputs 10V and their dependents 2 relays with potential-free contact.
- Maximum contact load 16 A/4000 VA/AC1.
- Each of two channel is separately controllable and addressable.
- LED's on front panel signals status of each channel.
- With control buttons on the front panel, is possible to change status of each channel separately.
- LBC3-02M in 3-MODULE version is designed for mounting into a switchboard/ DIN rail EN60715.

TECHNICAL PARAMETERS

INPUTS

Number of control buttons:	2 buttons on the front panel

OUTPUTS

Output:	2x 1-10V/10 mA 2x changeover 16 A/AC1
Switching voltage:	250 V AC1, 24 V DC
Switching capacity:	4000 VA/AC1, 384 W/DC
Peak current:	30 A/<3s
Insulation voltage between outputs and internal circuits:	3.75 kV, SELV by EN 60950
Insulation voltage between relay outputs RE1 and RE2:	1000 V AC
Minimal switched current:	100 mA
Frequency of switching/no load:	1200 min^{-1}
Frequency of switching/rat. load:	6 min^{-1}
Mechanical life:	3 x 10^{7}
Electrical life AC1:	0.7 x 10^{5}
Output indication:	2x yellow LED

COMMUNICATION

Installation BUS:	CIB

POWER SUPPLY

Supply voltage/rated current:	27 V DC/60 mA, from CIB BUS
Status indication unit:	green LED RUN

CONNECTION

Terminal:	max. 2.5 mm^2/1.5 mm^2 with sleeve

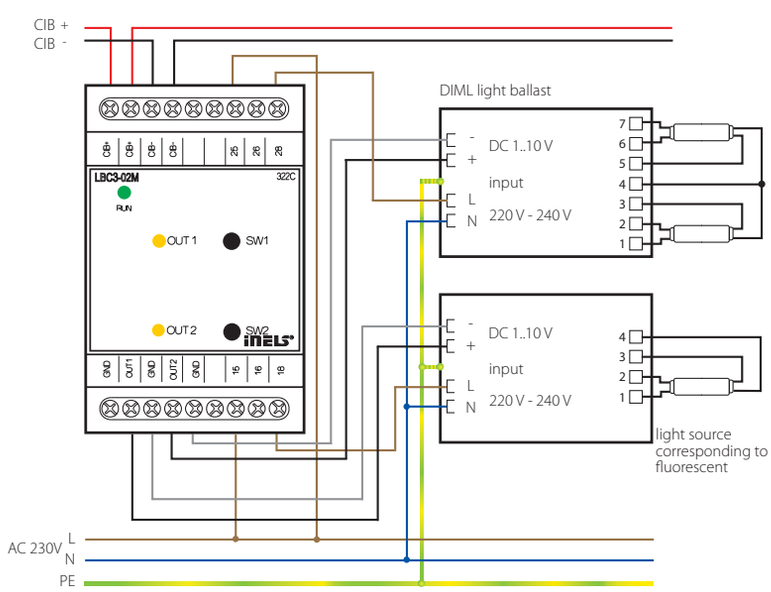
OPERATING CONDITIONS

Operating temperature:	-20 .. +55 °C
Storing temperature:	-30 .. +70 °C
Protection degree:	IP 20 device, IP 40 mounting in the switchboard
Purpose of control devices:	operative control devices
The design of control device:	independent control device
Characteristics machine. action:	1.B.E
Category of resistance to heat and fire:	FR-0
Category (immunity):	class 2
Rated impulse voltage:	2.5 kV
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	switchboard on DIN rail EN 60715
Design:	3-MODULE

DIMENSIONS AND WEIGHT

Dimensions:	90 x 52 x 65 mm
Weight:	129 g

Example of connection:



EAN code
RFDA-73M/RGB 8595188146814
External antenna AN-E 859415759012
Internal antenna AN-I 8595188161862

- It used to dim LEDs, an LED strip and RGB LED strip with power supply 12-24V DC, control is performed with RF Control wireless transmitters or signal 0-10V/ 1-10V, or iNELS DAC converter iNELS
- The function (FUNC) selection switch enables setting of colored light scenes upon switching off , the set level is stored in the memory, and when switched back on, it returns to the most recently set value
- The load for individual channels is 3x5A, which in practice enables dimming of approx. 60W = an 8m RGB LED strips
- The supply voltage to the equipment and the LED strip must be the same. If the RFDA-73M/RGB is supplied by 12V DC, LED strip / source should also be supplied by 12V DC. The same applies for a supply voltage of 24V DC
- Programming is performed by button PROG located on the front panel of the device supplied with internal antenna SMA (M)
- Optional accessories: external antenna AN-E

TECHNICAL PARAMETERS

OUTPUTS

Dimmed load:	LED strip 12V,24V with common anode RGB LED strips 12V, 24V with common anode
Number of channels:	3
Rated current:	3x5 A
Peak current:	3x10 A
Switching voltage:	Un

CONTROLLING

RF by command from the transmitter:	868 MHz
Ext. signal:	0-10 V, 1-10V
Ext. signal:	1-10 V
Range in open space:	up to 160 m
Load capacity of output +10V:	10 mA

POWER SUPPLY

Supply terminals:	Un+, GND
Supply voltage:	12-24 V DC stabilized
Maximum power without load:	0.8 W

CONNECTION

Terminal:	max 1x2.5, max 2x1.5/ with sleeve max. 1x2.5

OPERATING CONDITIONS

Operating temperature:	-20 to + 50 °C
Storing temperature:	-30 to + 70 °C
Pollution degree:	2
Operating position:	any
Protection:	IP 20 from front panel
Installation:	into a switchboard rail to DIN EN 60715
Design:	3-MODULE

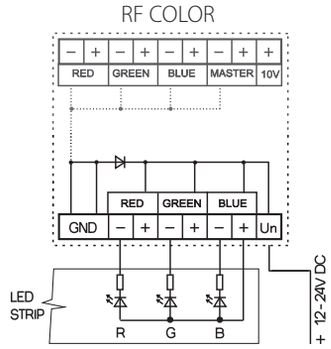
DIMENSIONS AND WEIGHT

Dimensions:	90 x 52 x 65 mm
Weight:	130 g

CONNECTION

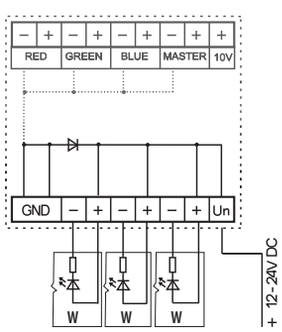
Output variations

RF RGB
RF COLOR



RGB strip

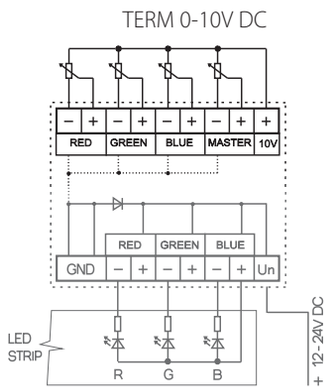
RF SINGLE



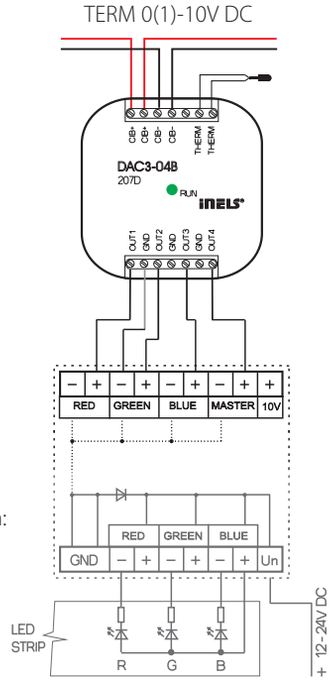
Single LED

Control options

TERM 0-10V DC



TERM 0(1)-10V DC



External control of iNELS Bus System:
- Outputs 0-10 V or 1-10 V
- e.g. DAC3-04B or DAC3-04M.

RF RGB

RF RGB mode for controlling RGB LED strips.

In the RF RGB programming mode, colors are automatically assigned to individual transmitter buttons.

Note: It is only possible to use this function for RFWB-40, RF KEY and RFIM-40

LEGEND

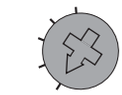
Buttons:

R - red

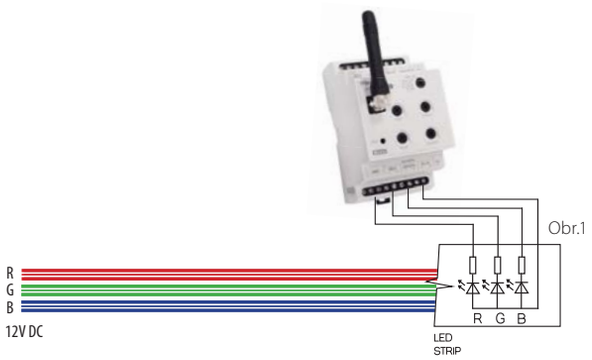
G - green

B - blue

M - master setting of overall scene brightness



RF KEY



Obr.1

RF COLOR

Mode RF COLOR for controlling RGB LED strips, where it is possible to choose the color for an individual transmitter button. The device is brought into programming mode when the strip changes color. By pressing transmitter, the color is automatically set under the given button.

Note: It is only possible to use this function for RFWB-40, RF KEY and RFIM-40

LEGEND

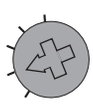
Buttons:

V - free selection of color

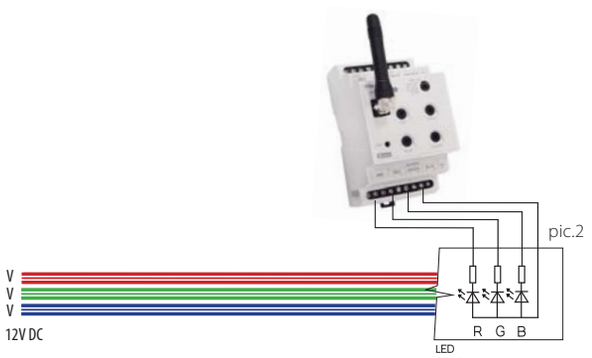
V - free selection of color

V - free selection of color

M - master setting of overall scene brightness



RF KEY



pic.2

RF SINGLE

Mode RF SINGLE.

It works in a mode, where it acts like 3 separate dimmers for RF SINGLE 12-24 V, meaning it dims 3 blue strips. Each channel can be programmed independent of each other and has its own address.

LEGEND

Buttons:

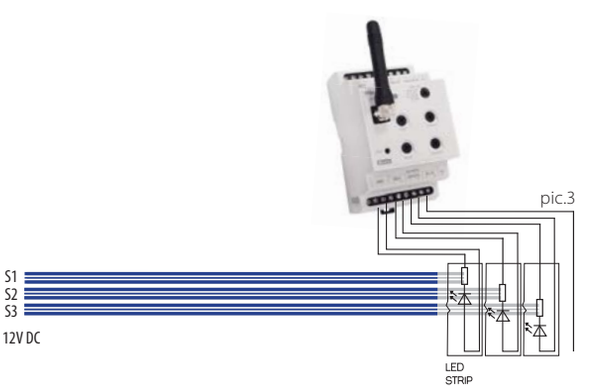
S1- single color

S2 - single color

S3 - single color

M - master setting of overall scene brightness

RF KEY



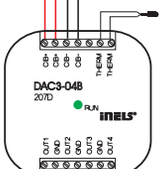
pic.3

TERM 0-10V a TERM 1-10V

MODES TERM 0 -10V AND TERM 1-10V.

Inputs 0 - 10V and 1 -10V serves for controlling iNELS with the help of DAC32-4M or DAC3-04B. So it's possible to combine and control LED strips via iNELS.

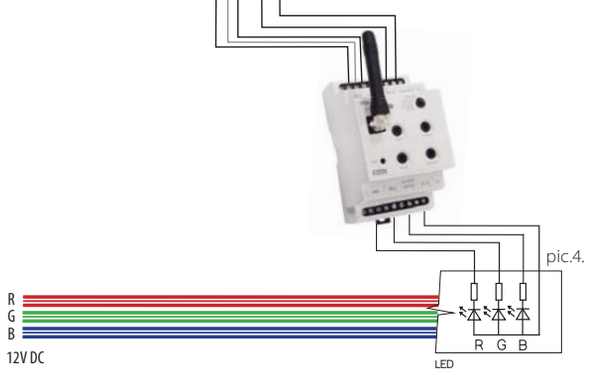
EST - 3



TERM 1-10V

TERM 0-10V

RF Touch



pic.4.

IM3-20B

EAN code
IM3-20B 8595188132305

IM3-40B

EAN code
IM3-40B 8595188132312

IM3-80B

EAN code
IM3-80B 8595188132329

- It is used for connection of 2, 4 or 8 devices with potential-less contacts (switches, buttons, PIR sensors, fire and gas detectors etc.).
- INPUTS IN1, IN2 of IM3-20B, IM3-40B and IN1 - IN5 of IM3-80B can be used as balanced inputs for alarm detectors.
- Units generate output supply voltage of 12V DC/75 mA for supplying external alarm detectors, so the can be powered PIR sensors, fire and gas detectors and others.
- Units have input for temperature sensor TC/TZ.
- Contacts of external devices connected to the INPUTS can be NO or NC - Input parameters are configured in software IDM.
- Units are designed for mounting into a installation box.

TECHNICAL PARAMETERS

INPUTS

Input IM3-20B:	2x NO or NC against GND(-) IN1, IN2 are balanced inputs
Input IM3-40B:	4x NO or NC against GND(-) IN1, IN2 are balanced inputs
Input IM3-80B:	8x NO or NC against GND(-) IN1-IN5 are balanced inputs
Temperature measuring:	ANO, input for external thermo sensor TC/TZ
Range /accuracy of thermomeasuring:	-20 ..+100°C / 0.5°C from the range

OUTPUTS

Output voltage / current:	12 V DC/75 mA, for supplying EZS sensors

COMMUNICATION

Installation BUS:	CIB
Status indication unit:	green LED RUN

POWER SUPPLY

Supply voltage/rated current:	27 V DC/15 mA, from CIB BUS
Rated current of IM3-20B and IM3-40B for full load on output 12 V DC:	60 mA
Rated current of unit for full load on output 12 V DC of IM2-80B:	100 mA

CONNECTION

Terminal:	0.5 - 1 mm^2
INPUTS IM2-20B:	4x conductors CY, profile 0.75 mm^2, length 90 mm
INPUTS IM2-40B:	6x conductors CY, profile 0.75 mm^2, length 90 mm

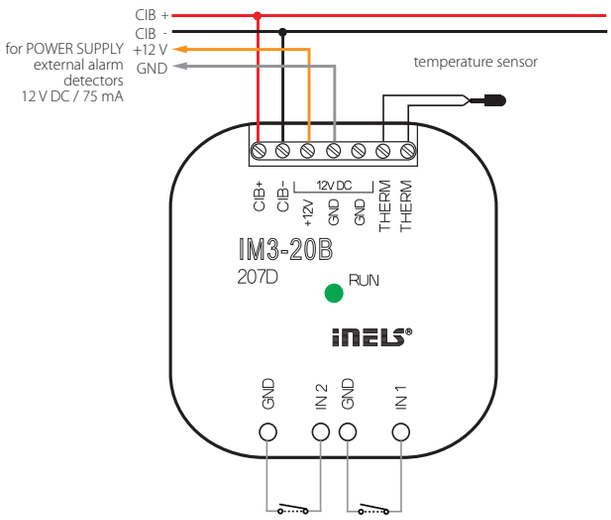
OPERATING CONDITIONS

Operating temperature:	-20 .. +55 °C
Storing temperature:	-30 .. +70 °C
Protection degree:	IP 30
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	into installation box

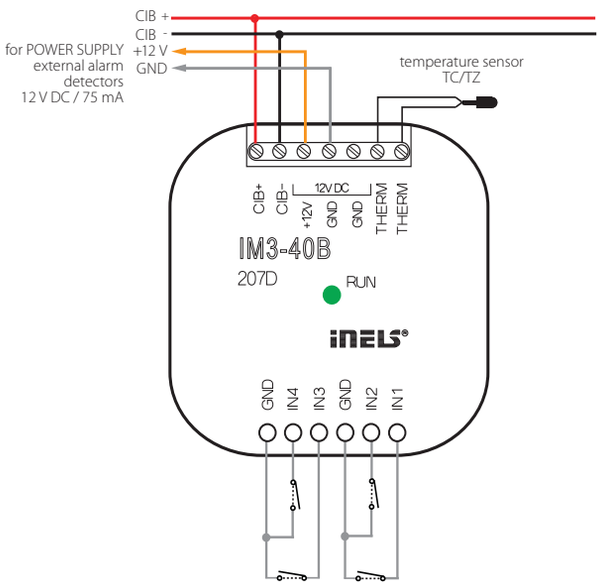
DIMENSIONS AND WEIGHT

Dimensions:	49 x 49 x 13 mm
Weight:	IM3-20B - 30 g, IM3- 40B - 32 g, IM3-80B - 24g

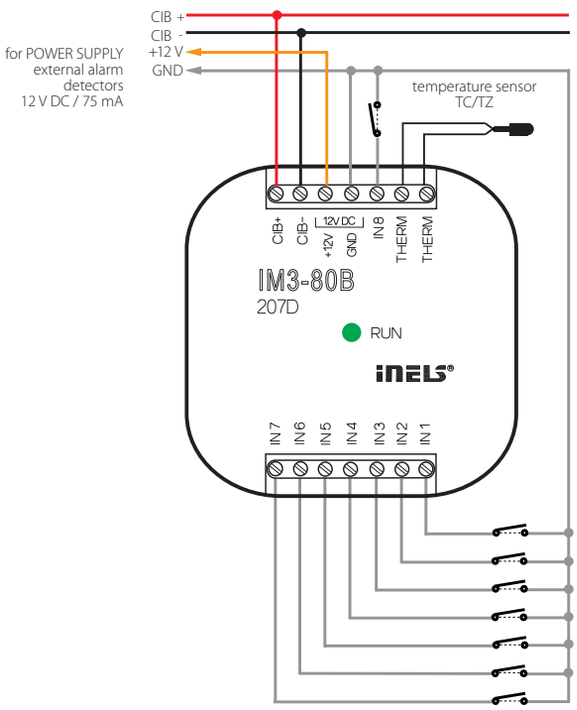
Example of connection IM3-20B



Example of connection IM3-40B

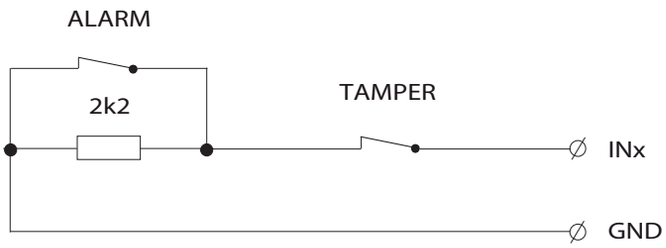


Example of connection IM3-80B

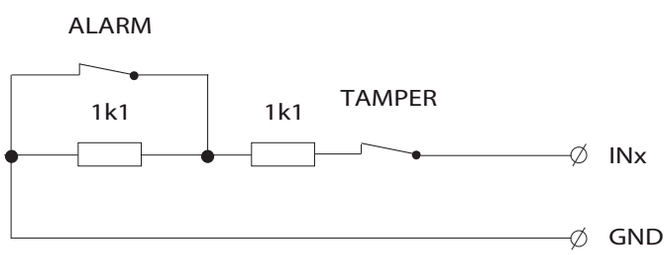


Balanced input

Simple:



Double:



EAN code

IM3-140M 8595188132459

- It serves for connection of up to 14 devices with potential-less contacts (switches, buttons, sensors, fire and gas detectors etc.).
- Inputs IN1 - IN7 can be used as balanced.
- Generates supply voltage of 12V DC/150mA for supplying sensors, so it is possible to connect PIR sensors, fire and gas detectors etc.
- Contacts external devices connected to the INPUTS can be NO or NC - Input parameters are configured in software IDM.
- IM3-140M in 3-module version is designed for mounting into switchboard, on DIN rail EN60715.

TECHNICAL PARAMETERS

INPUTS

Input:	14x NO or NC against GND (-) IN1 - IN7 -are balanced inputs

OUTPUTS

Output (POWER SUPPLY 12V for sensors):	12 V DC/150 mA

COMMUNICATION

Installation BUS:	CIB
Data transfer indication:	yellow LED

POWER SUPPLY

Supply voltage/rated current:	27 V DC/25 mA, from CIB BUS
Rated current for full load on output 12 V DC:	100 mA
Supply voltage indication:	green LED Un

CONNECTION

Terminal:	max. 2.5 mm^2/1.5 mm^2 with sleeve

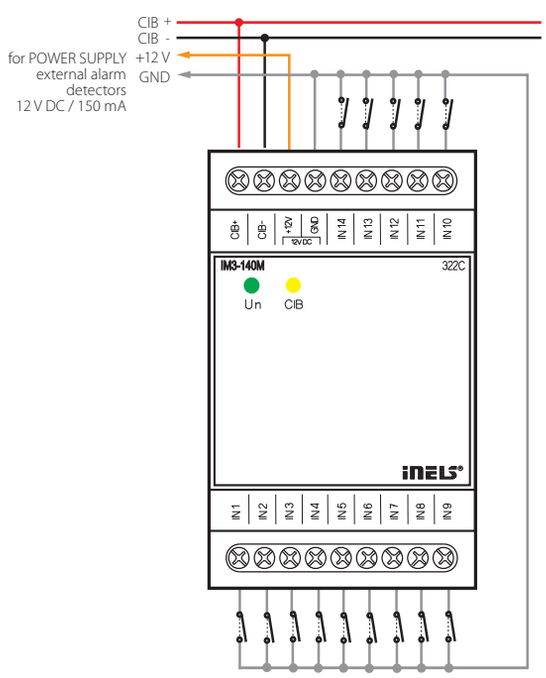
OPERATING CONDITIONS

Operating temperature:	-20 .. +55 °C
Storing temperature:	-30 .. +70 °C
Protection degree:	IP 20 device, IP 40 mounting in the switchboard
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	into a switchboard rail to DIN EN 60715
Design:	3-MODULE

DIMENSIONS AND WEIGHT

Dimensions:	90 x 52 x 65 mm
Weight:	102 g

Example of connection



TI3-10B

TI3-40B

EAN code

TI3-10B 8595188132886

EAN code

TI3-40B 8595188132695

- Units are used for connection of one (Ti3-10B) or four (Ti3-40B) passive resistance temperature sensors.
- Is possible to use several types of two-wire sensors, probes and sensors - TC/ TZ, Ni1000, Pt100, Pt1000.
- Used in when necessary to take temperatures from different places (for example large floor heating – diagonal layout of sensors, floor/space, indoor/ outdoor temperature, technological device – boiler, solar heating etc.
- Status of the unit is indicated by green LED diod RUN on the front panel.
- TI3-10B i TI3-40B are designed for mounting into an installation box.

TECHNICAL PARAMETERS

INPUT

Temperature input for temperature measuring:	1x/4xinputs for external thermo sensor TC, TZ, Ni1000, Pt1000, Pt100, see accessories
Emperature measurement range:	by type of sensor, prob from -30°C to 250°C
Converter resolution:	14 bit

COMMUNICATION

Installation BUS:	CIB
Status indication unit:	green LED RUN

POWER SUPPLY

Supply voltage/rated current:	27 V DC/25 mA, from CIB BUS

CONNECTION

Terminal:	0.5 mm^2 - 1 mm^2

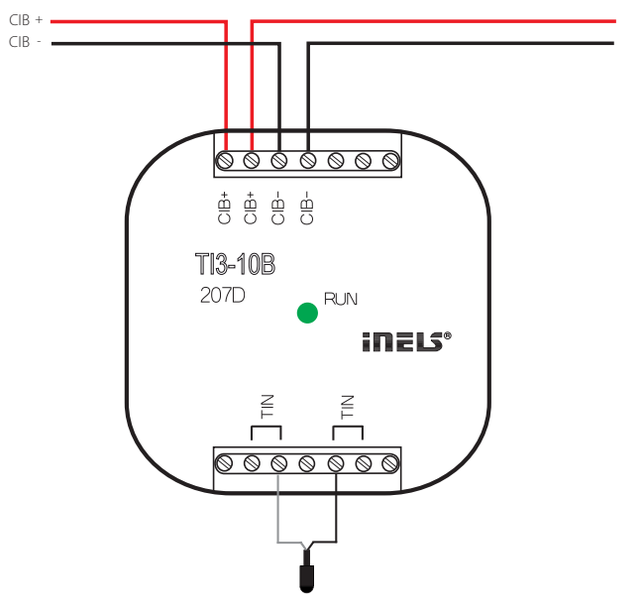
OPERATING CONDITIONS

Operating temperature:	-20 .. +55 °C
Storing temperature:	-30 .. +70 °C
Protection degree:	IP 30
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	into installation box

DIMENSIONS AND WEIGHT

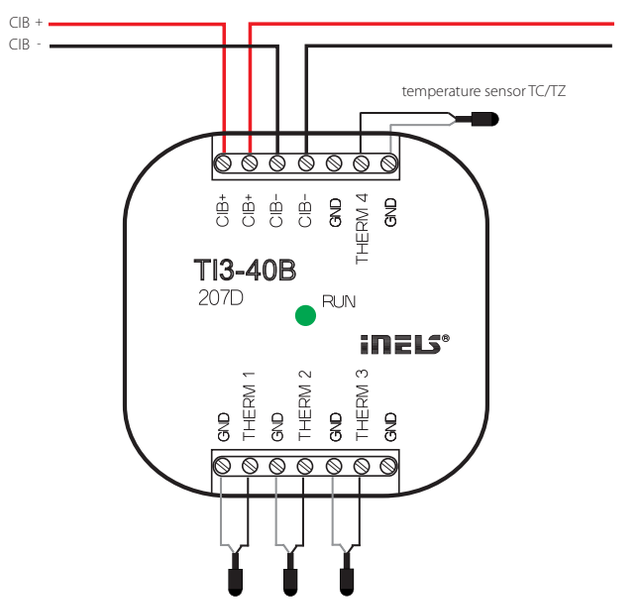
Dimensions:	49 x 49 x 13 mm
Weight:	TI3-10B (22 g), TI3-40B (24 g)

Example of connection TI3-10B



temperature sensor TC/TZ, Ni, Pt

Example of connection TI3-40B



temperature sensor TC/TZ

EAN code

TI3-60M 8595188132893

- It serves for connection up to 6 passive resistance temperature sensors
- It is possible to use several types of 2-wire sensors TC/TZ - Ni1000, Pt100, Pt1000
- Used in when necessary to take temperatures from different places (for example large floor heating – diagonal layout of sensors, floor/space, indoor/outdoor temperature, technological device – boiler, solar heating etc.)
- Status of TI3-60M indicates green RUN LED on the front panel. Status for each temperature input indicates an appropriate red LED on the front panel as well
- TI3-60M in 3-MODULE version is designed for mounting into a switchboard, on a DIN rail EN60715

TECHNICAL PARAMETERS

INPUT

Temperature input for temperature measuring:	6 x input to externa temperature sensor TC, TZ, Ni1000, Pt1000, Pt100 see accessories
Emperature measurement range:	By type of sensor, probe from -30°C to 250°C
Converter resolution:	14 bit
Indications:	6x red LED

COMMUNICATION

Installation BUS:	CIB
Status indication unit:	green LED RUN

POWER SUPPLY

Supply voltage/rated current:	27 V DC/45 mA, from CIB BUS

CONNECTION

Terminal:	0.5 mm^2 - 1 mm^2

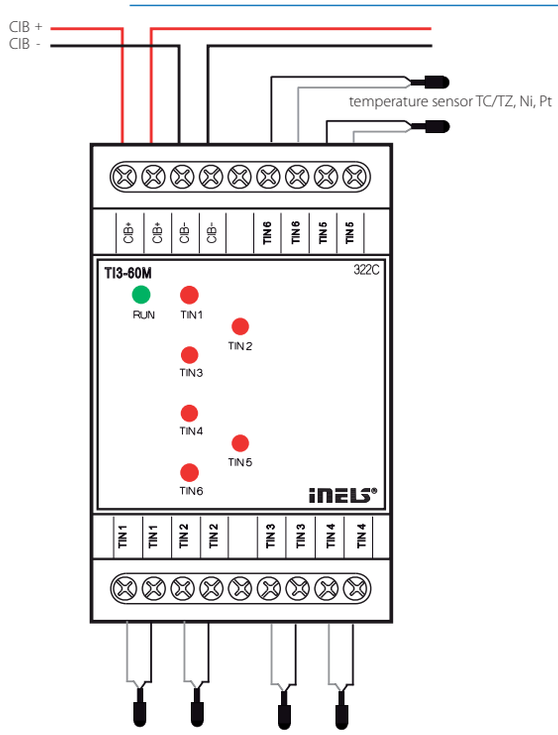
OPERATING CONDITIONS

Operating temperature:	-20 .. +55 °C
Storing temperature:	-30 .. +70 °C
Protection degree:	IP 30
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	into a switchboard rail to DIN EN 60715

DIMENSIONS AND WEIGHT

Dimensions:	90 x 52 x 65 mm
Weight:	102 g

Example of connection



temperature sensor TC/TZ, Ni, Pt

EAN

ADC3-40M 8595188132596

- Designed for connection of analog sensors, which generate voltage or current signal and passive resistive sensors.
- Contains 4 analog INPUTS with a resolution of 14 bit AD converter.
- Contains 4 analog INPUTS with common terminal GND.
- INPUTS are confi gured in IDM, individually as voltage (U) or current (I) and two-wired connection of resistive sensors (RTD).
- Red LED on front panel signals level of analog output out of measuring range (overload or underload - output disconnection).
- ADC3-40M in 3-MODULE version is designed for mounting into a switchboard, on a DIN rail EN60715.

TECHNICAL PARAMETERS

ANALOG INPUTS

Number of inputs:	4
Galv. separation from inner circuits:	No
Diagnostic:	overload by state word and LED
Common terminal:	GND
Type of converter:	approximate
Converter resolution:	14 bits
Input resistance (for voltage ranges):	approx. 200 kΩ
Input types/Measuring ranges (for each input individually optional by confi guration in user program IDM):	Voltage (U) : 0 ÷ +10 V (U) 0 ÷ +5 V (U) 0 ÷ +2 V (U) 0 ÷ +1 V (U) 0 ÷ +0,5 V (U) Current (I) : 0 ÷ +20 mA (I) 4 ÷ +20 mA (I) Measuring resistance (RTD): Ni1000, Pt1000, Pt100 (RTD), OV1000, TC, TZ

COMMUNICATION

Installation BUS:	CIB
Unit status indication:	green LED RUN

POWER SUPPLY

Supply voltage/rated current:	27 V DC/50 mA, from CIB BUS

CONNECTION

Terminal:	max. 2.5 mm²/1.5 mm² with sleeve

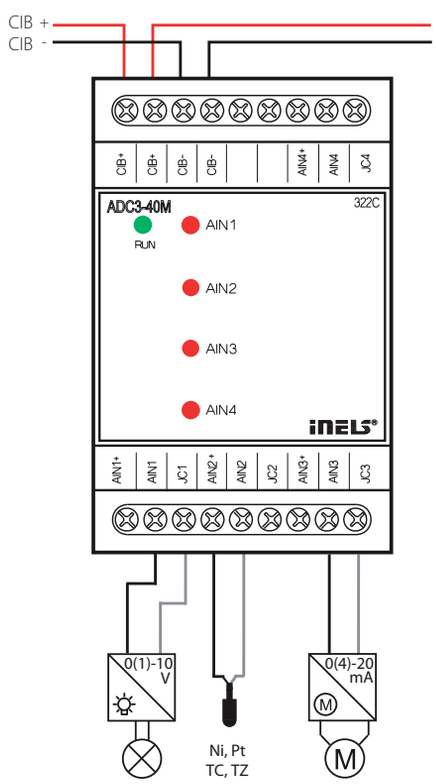
OPERATING CONDITIONS

Operating temperature:	-20 .. +55°C
Storing temperature:	-30 .. +70°C
Protection degree:	IP 20 device, IP 40 mounting in the switchboard
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	into a switchboard rail to DIN EN 60715
Design:	3-MODULE

DIMENSIONS AND WEIGHT

Dimensions:	90 x 52 x 65 mm
Weight:	112 g

Example of connection



- It generates 4 analog voltage outputs (channels), which can be operated, according to type of controlled device, in range 0-10V or 1-10V.
- It serves for regulation and control for devices, which are controlled by 0-10V or 1-10V signal (lamp ballast for fl uorescent lights, dimmers, thermo heads, servo motors, measuring elements, regulation devices, etc.).
- Range of output voltage is adjustable in IDM.
- DAC3-04B is equipped with a temperature input for temperature measurement using sensors TC / TZ.
- DAC3-04B in version B is designed for mounting into installation box.

EAN code

DAC3-04B 8595188132572

TECHNICAL PARAMETERS

INPUTS

Temperature measuring:	YES, input for external temperature sensor TC/TZ
Range / accuracy of temp. measuring:	-20 .. +100°C; 0.5°C from the range

OUTPUTS

Analog voltage output / rated current:	4x 0(1)-10 V/10 mA

COMMUNICATION

Installation BUS:	CIB
Status indication unit:	green LED RUN

POWER SUPPLY

Supply voltage/rated current:	27 V DC/50 mA, from CIB BUS

CONNECTION

Terminal:	0.5 - 1 mm²

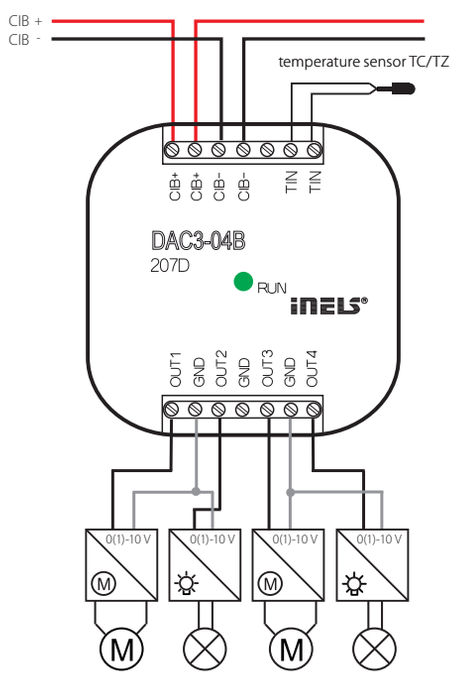
OPERATING CONDITIONS

Operating temperature:	-20 .. +55 °C
Storing temperature:	-30 .. +70 °C
Protection degree:	IP 30
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	into installation box

DIMENSIONS AND WEIGHT

Dimensions:	49 x 49 x 13 mm
Weight:	33 g

Example of connection



EAN code

DAC3-04M 8595188132565

- It generates 4 analog voltage outputs (channels), which can be operated, according to type of controlled device, in range 0-10V or 1-10V.
- It serves for regulation and control for devices, which are controlled by 0-10V or 1-10V signal (lamp ballast for fl uorescent lights, dimmers, thermo heads, servo motors, measuring elements, regulation devices, etc.).
- Range of output voltage is adjustable in IDM.
- DAC3-04M in 3-MODULE version is designed for mounting into switchboard, on DIN rail EN60715.

TECHNICAL PARAMETERS

OUTPUTS

Analog voltage output/rated current:	4x 0(1)-10 V/10 mA

COMMUNICATION

Installation BUS:	CIB
Data transfer indication:	yellow LED

POWER SUPPLY

Supply voltage/rated current:	27 V DC/50 mA, from CIB BUS
Supply voltage indication:	green LED Un

CONNECTION

Terminal:	max. 2.5 mm²/1.5 mm² with sleeve

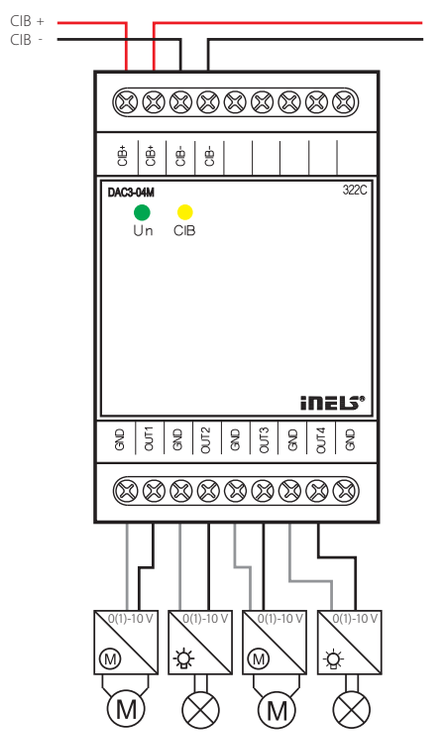
OPERATING CONDITIONS

Operating temperature:	-20 .. +55 °C
Storing temperature:	-30 .. +70 °C
Protection degree:	IP 20 device, IP 40 mounting in the switchboard
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	switchboard on DIN rail EN 60715
Design:	3-MODULE

DIMENSIONS AND WEIGHT

Dimensions:	90 x 52 x 65 mm
Weight:	102 g

Example of connection



EST-3/B - for mounting into an installation box

EAN code

EST-3/B (white frame, white intermediate frame, white back cover) - 8595188177047
EST-3/B (black box, tm. intermediate frame gray, dark. gray back cover) - 8595188177054
EST-3/B/RGB (white frame, white intermediate frame, white back cover) - 8595188177061
EST-3/B/RGB (black box, tm. intermediate frame gray, dark. gray back cover) - 8595188177078

- EST-3/B/RGB screen contains the basic regulation and controls and buttons for RGB light sources management.
- In the settings menu of button configuration there is possible to assign a symbol from selected template to each buttons, an icon from the default supply (48 different symbols), respectively. buttons to enter the 3 letters.
- EST-3 features a 3.5˝ color touch screen in a 4:3 ratio. Basic display resolution is 240 x 320, color Depth 16.7 M. EST-3 has two basic touch screen control panel buttons and thermoregulation, EST-3/B/RGB also has a screen control RGB light sources.
- Using the touch sensing surface can be controlled and configured buttons symbols on the screen, by just a light touch. Individual symbols on the screen are by „press" animated by the associated output system.
- Panel button in the menu can be optionally configured from the settings as required. There are 4 basic master keys - 2x2, 2x3, 3x3, 3x4.
- It's possible to control the thermoregulation from the screen control using symbols +, -, or virtual scroll wheel to display temperature correction EST-3 correct temperature of the selected heating circuit in the range of + / - 5 ° C, or enter the desired temperature of the heating circuit.
- There are 4 indicators at the base of each screen in the upper left corner, which can indicate the status of any logical input / output system.
- In the settings menu you can define the language menu, screen saver, sleep mode, brightness, select the default display mode and display devices EST-3.

TECHNICAL PARAMETERS

DISPLAY

Type:	colored TFT LCD
Aspect ratio:	3:4
Visible area:	52.5 x 70 mm
backlight:	active
Touchpad:	4 wire resistive
Display:	3.5"
Number of points:	240 x 320
Color Depth:	16.7M

POWER SUPPLY

Supply voltage / rated current:	27V DC/ 150 mA

CONNECTION

Connection:	terminals
Connecting conductors profile:	max. 2.5mm^2/1.5mm^2 with sleeve

OPERATING CONDITIONS

Operating temperature:	0 .. +55°C
Storing temperature:	- 20 .. +70°C
Protection degree:	IP20
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	installation box

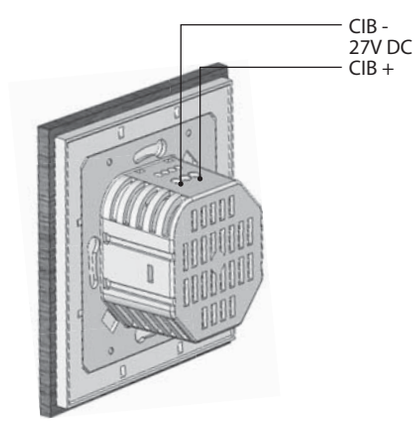
DIMENSIONS AND WEIGHT

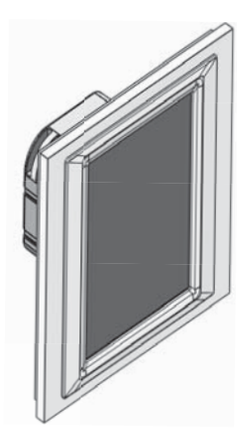
Dimensions	94 x 94 x 30 mm
Weight:*:	EST-3/B (127 g)

* Weight is listed with plastic frame

POWER SUPPLY

EST-3/B, EST-3/B/RGB

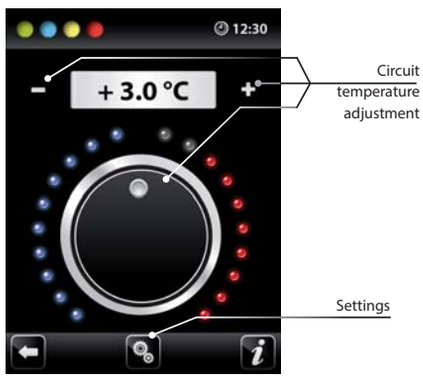




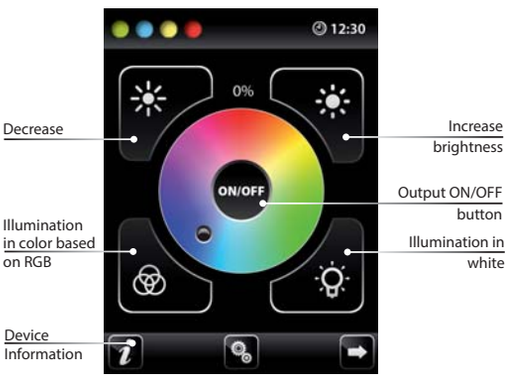
THE SCREENSHOTS

EST-3/B, EST-3/B/RGB

EST-3/B, EST-3/B/RGB



EST-3/B/RGB



Legend:

EST-3=> settings menu=>design selection=>2x2 - input IN1- IN4
EST-3=> settings menu=>design selection=>2x3 - input IN1- IN6
EST-3=> settings menu=>design selection=>3x3 - input IN1- IN9
EST-3=> settings menu=>design selection=>3x4 - input IN1- IN12

DISPLAY BUTTONS

- Programming the iNELS system functions for individual buttons on the EST-2 device screen is performed the same as programming other digital inputs, events in the IM2-140M unit. On the given digital inputs, it is only possible to use parameters A and D. It is not possible on inputs to use and distinguish parameter I - negated output, and parameter B – balanced input, as well as the double balanced input parameter. The buttons are identical to the binary inputs of the IM2-140M unit (see confi g. image). Buttons can be confi gured the same as the WSB wall controller, both for short and long press (>1.5s).

- Four colored LED indicators are connected to digital outputs, and are found in the upper left corner of the screen. Each of the four colored LEDs is separately controllable and programmable. The green and blue LEDs are connected to outputs RE1, RE2 of the KEY2-01 device in the device manager. The yellow and red LEDs are connected to outputs HAND, and MAN of the IDRT2 1 device in the device manager.

HEATING CONTROL SCREEN

- On the heating control screen of the EST-3, it is possible to adjust the temperature of the selected heating circuit in a range of +/- 5°C., or according to the menu settings it is possible to set absolute temperature required for a room or a heating circuit. These buttons served for temperature correction in heating circuit are connected to analog input of device of temperature correction. Each colored LED indicator can be controlled and programmed individually.

RGB LAMP AND LIGHT SOURCE CONTROL SCREEN

- The EST-3/B/RGB screen contains basic regulation and CONTROL FEATURES and buttons for controlling RGB light sources. The function of screen control of RGB is set up as follows: each color component R, G and B is banded and simulates the signal level on analog inputs R,G,B, final brightness of a lamp is simulated on analog input 0 - 100 %.

- The RGB control display is comprised of several elements and buttons.
  - A long press (touch) on the ON/OFF controls the central setting of RGB components and lamp brightness - on/off
  - Buttons in the upper half of the screen are for setting the lamp brightness from 0-100% in 5% increments (see adjustable brightness indicator in %)
  - Buttons in the lower half of the screen are for setting the color comfort and accelerated lamp RGB control. The buttons have a lock function. When pressing „white illumination" button, the analog inputs are automatically set to the maximum value of individual color components, which appears as a resulting white light at the RGB light source output when these components are mixed. Then simply adjust the brightness intensity at the output. When pressing (touching) the button „RGB-based color illumination", the „white illumination" , button automatically unlocks, and the „RGB-based color illumination" settings button locks. Now the values of analog inputs of individual RGB color components are preset according to the set cursor in the color wheel of the RGB scale on the EST-3.

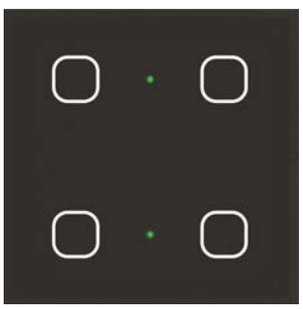
- Info gives information on the device and fi rmware version. Clicking the icon brings you to the settings menu, used to edit the EST-3. The icon returns to the buttons panel.

- The system time is displayed in the upper right corner of the screen. The displayed system time is connected to the KEY2-01 unit in the device manager.

- In the case of request for changing the original screen (panel) buttons, it is always necessary to perform RESET device before configuration of icons (buttons).

- All inputs and outputs on the EST-2 unit can be freely programmed and parameterized using the IDM program.

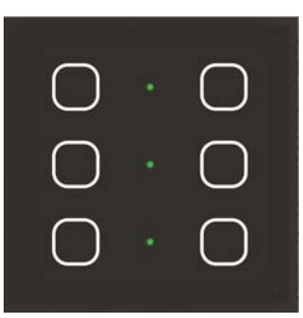
GSB3-40



EAN code

GSB3-40 8595188132909

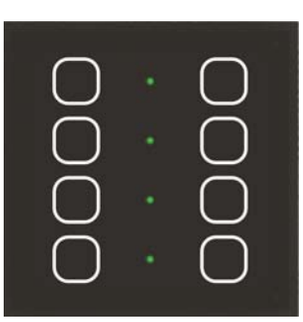
GSB3-60



EAN code

GSB3-60 8595188132916

GSB3-80



EAN code

GSB3-80 8595188132923

- Wall controller with touch control series GSB3 are main and most frequently used elements (sensors) in iNELS system.
- Two-colored indication LED, located in each position of controller, can signal status of controlled appliance, and also status of any sensor or actuator in the system.
- Controllers are 4-channels (GSB3-80), 6-channels (GSB3-60) and 8-channels (GSB3-80), but currently our department of research and development is working on another variants of that controllers with another graphic changes and also for RGB controlling.
- All versions are in the same dimension as a basic modular wall-switch (94x94 mm), in design LOGUS^{90}.
- Each controller is equipped with thermo sensor. It is equipped with two analog-digital inputs (AIN / DIN). is possible to connect an external temperature sensor TC / TZ.
- The main advantage against the standard buttons/switches is space saving and comfort control.
- The touch detection can be indicated by short tone sound or vibrating pulse.
- Each channel(button) can control any actuator (appliance) in the system. It is also possible to program various functions or fuction macro (set of functions) to each button. Allowing you to control several appliances with one button simultaneously.
- Each button (fold) can have different functional modes beside lightning control:

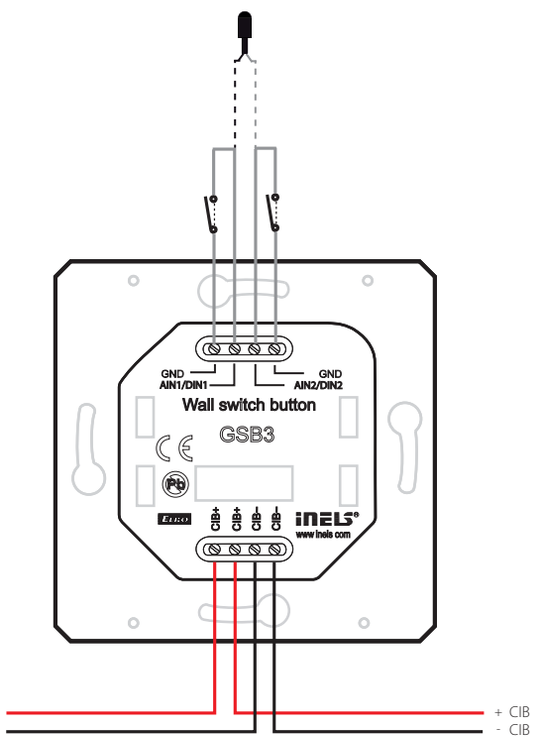
a) Classic wall-switch:
   - upper button ON, bottom button OFF
b) Button controller (impulse relay):
   - first press ON, second press OFF
c) Dimmer:
   - short press – ON/OFF,
d) Time switch:
   - ON after press, automatically OFF after set time
e) Setting light scenes – for example: for watching TV:
   - shutters down
   - TV ON
   - main light 30% intensity
   - wall-lamps 50% intensity

- GSB3 in design Elegant and LOGUS^{90}, designed for mounting into an installation box.

TECHNICAL PARAMETERS

INPUTS	GSB3-40	GSB3-60	GSB3-80
Temperature measuring:		YES, built-in thermo sensor, NTC	
Scope and accuracy of temp. measurement:		0.. +55°C ; 0.3°C from the range	
Number of control buttons:	4	6	8
Inputs:		2x AIN/DIN	
Resolution:		by setting bit 10	
Ext. temperature sensor:		Yes, the connection between AIN1/DIN1 and AIN2/DIN2	
Type ext. sensor:		TC/TZ	
Temperature measurement range:		-20°C to +100°C	
Temperature measurement accuracy:		+0.5°C from range	
OUTPUTS			
Indications:		two-colored LED (red, green)	
Number:	2	3	4
COMMUNICATION			
Installation BUS:		CIB	
POWER SUPPLY			
Supply voltage/rated current:		27 V DC/ 25 - 40 mA, from CIB BUS	
CONNECTION			
Terminals:		0.5 - 1 mm^2	
OPERATING CONDITIONS			
Operation temperature:		-20 .. +55 °C	
Storing temperature:		-30 .. +70 °C	
Protection degree:		IP 20	
Overvoltage category:		II.	
Pollution degree:		2	
Operation position:		any	
Installation:		into installation box	
DIMENSIONS AND WEIGHT			
LOGUS^{90}			
Dimensions:		94 x 94 x 30 mm	
Weight:		70 g (without frame)	

Example of connection



WSB3-20

EAN code
WSB3-20 8595188132343

WSB3-40

EAN code
WSB3-40 8595188132336

TECHNICAL PARAMETERS

INPUTS	WSB3-20	WSB3-40
Temperature measuring:	YES, built-in temperature sensor, NTC	
Scope and accuracy of temp. measurement:	0.. +55°C ; 0.3°C from the range	
Number of control buttons:	2	4
Inputs:	2x AIN/DIN	
Resolution:	by setting bit 10	
Ext. temperature sensor:	Yes, the connection between AIN1/DIN1 and AIN2/DIN2	
Type ext. sensor:	TC/TZ	
Temperature measurement range:	-20°C až +100°C	
Temperature measurement accuracy:	+0,5°C from range	

OUTPUTS		
Indication:	two-colored LED (red, green)	
Number of outputs:	1	2

COMMUNICATION	
Installation BUS:	CIB

POWER SUPPLY	
Supply voltage/rated current:	27 V DC/25 mA, from CIB BUS

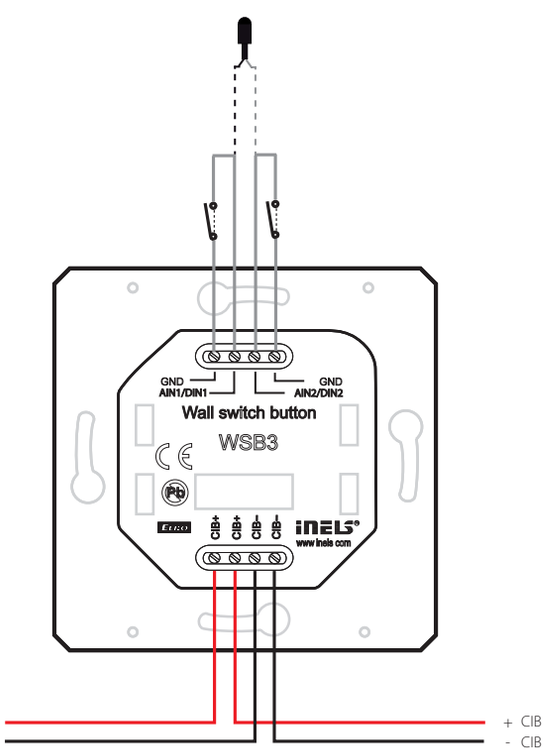
CONNECTION	
Terminals:	0.5 - 1 mm^2

OPERATING CONDITIONS	
Operation temperature:	-20 .. +55 °C
Storing temperature:	-30 .. +70 °C
Protection degree:	IP 20
Overvoltage category:	II.
Pollution degree:	2
Operation position:	any
Installation:	into installation box

DIMENSIONS AND WEIGHT	
Dimensions (plastic):	85.6 x 85.6 x 30 mm
Dimensions (metal, glass, wood, granite)	94 x 94 x 30 mm
Weight:	70 g (without frame)

- Wall controllers with low-upstroke control (line) WSB2 are main and most frequently used units (sensors) in iNELS system
- Built-in micro-buttons with low upstroke offer elegant and easy control
- Two-colored indication LED, located in each position of controller, can signal status of controlled appliance, and also status of any sensor or actuator in the system
- Controllers are designed as two-channel (WSB2-20), four-channel (WSB2-40) and eight-channel (WSB2-80)
- All versions are in the same dimension as a basic modular wall-switch (89x84 mm), in design Elegant and Logus90 (except WSB-80), and can be combined into multi-frames with other devices of this line
- Each controller is equipped with temperature sensor
- They are also equipped with two analog digital inputs (AIN/DIN) which enable to connect the external temperature sensors TC/TZ
- Biggest advantage compare to standard wall-switches/buttons is space saving and comfortable control. For example instead of a long line of 8 standard wall-switches, you can use only one wall group controller WSB2-80
- Each channel (button) can control any actuator (appliance) in the system. It is also possible to program various functions or fuction macro (set of functions) to each button. Allowing you to control several appliances with one button simultaneously
- Each button (fold) can have different functional modes beside lightning control:
  a) Classic wall-switch:
  - upper button ON, bottom button OFF
  b) Button controller (impulse relay):
  - first press ON, second press OFF
  c) Dimmer:
  - short press – ON/OFF,
  d) Time switch:
  - ON after press, automatically OFF after set time
  e) Setting light scenes – for example: for watching TV:
  - shutters down
  - TV ON
  - main light 30% intensity
  - wall-lamps 50% intensity
- WSB3 in design Elegant and LOGUS^{90}, designed for mounting into wiring box

Example of connection



EAN code

WMR3-11 8595188132756

- It serves for reading of contactless media (chip cards, key chains, etc.)
- It can be used for security system controlling (locking/unlocking), as a access system (doors, gates, etc.) and also as a control of appliances operating (due to the designed permitions)
- WMR3-11 supports RFID media with frequence 125 kHz and with IC type Unique 64 bits Ask Manchester
- It contains two buttons (UP/DOWN) with same functions as WSB2-20
- Indication LED can signal status of controlled appliance according to preprogrammed mode
- Relays output 8A with CO contact $AgSnO_2$ enables switching of controlled appliance
- WMR3-11 in design Elegant and LOGUS^{90}, designed for mounting into installation box

TECHNICAL PARAMETERS

INPUTS

Number of control buttons:	2

CARD READER

Type:	RFID 125 kHz ± 6 kHz
Supported cards:	ISO Card Unique
IC Type:	Unique 64 Bits RF/64 ASK Manchester, compatible with EM4100

OUTPUTS

Output:	1x changeover 8A / $AgSnO_2$
Indication:	red, green LED
Acustic output:	piezo-changer
Switching voltage:	230V AC/ 30V DC
Switching output:	2000 VA/AC1; 240 W/DC
Peak current:	20 A/<3s
Insulation voltage between relay outputs and internal circuits:	3.75 kV, SELV according to EN 60950
Minimal switched current:	10 mA / 10 V
Switching frequency without load:	300 min^{-1}
Switching frequency with rated load:	15 min^{-1}
Mechanical life:	1 x 10^7
Electrical life AC1:	1 x 10^5

COMMUNICATION

Installation BUS:	CIB BUS

POWER SUPPLYÍ

Supply voltage/rated current:	27 V DC/50 mA, from CIB

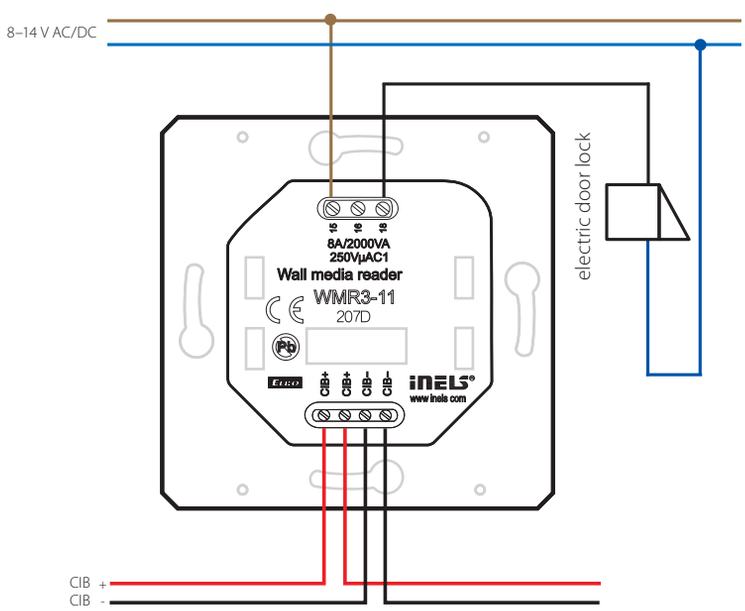
CONNECTION

Data:	terminals, 0.5 - 1 mm^2
Network:	max. 2.5 mm^2/1.5 mm^2 with sleeve
Operation temperature:	-20 .. +55 °C
Storing temperature:	-30 .. +70 °C
Protection degree:	IP20
Overvoltage category:	II.
Pollution degree:	2
Operation position:	any
Installation:	into installation box

DIMENSIONS AND WEIGHT

Dimensions (plastic):	85.6 x 85.6 x 30 mm
Dimensions (metal, glass, wood, granite)	94 x 94 x 30 mm
Weight:	82 g (without frame)

Example of connection



EAN code

IDRT3-1 8595188132510

- It used for regulation of room temperature
- Preprogrammed temperature from IDM, can be corrected with the push buttons in the range of+5°C/-5°C or you can enter the desired room temperature
- Display with 2 buttons allows you to enter the desired temperature and changing modes of heating and cooling circuit (see the function)
- Built-in thermo sensor measures ambient temperature
- The display readability is assured by active backlight
- Heating/cooling circuit is assigned to a thermo-regulator with the support of IDM

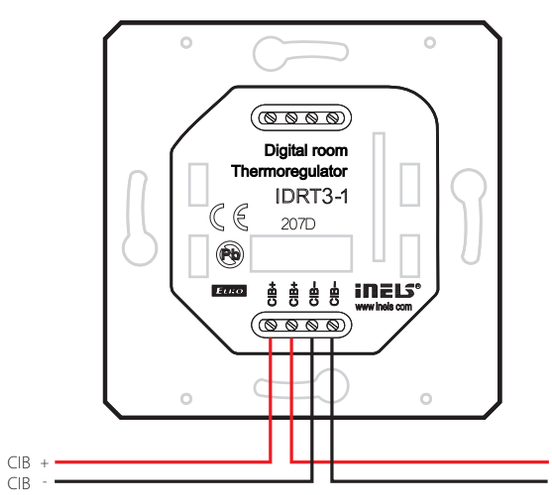
Functions:

Buttons ∨ / ∧ is used to correct the temperature range of -5°C/+5°C or enter the desired temperature in ° C (correction shifts the entire range of time program, i.e. all heating modes)

TECHNICAL PARAMETERS

INPUTS	IDRT3-1
Temperature measuring:	YES, built-in thermo sensor NTC
Range / accuracy of temp.measuring:	0 to +55°C; 0.3°C from range
Heating/cooling circuit correction:	±5°C or abs. value
Manual ontrol of heating/ cooling circuit:	2xbuttons
COMMUNICATION	
Installation:	CIB
Display:	symbol display
Backlight:	YES
POWER SUPPLY	
Supply voltage/rated current:	27 V DC/20 mA from CIB BUS
CONNECTION	
Terminals:	0.5 - 1 mm^2
OPERATING CONDITIONS	
Operation temperature:	0 .. +50 °C
Protection degree:	IP 20
Overvoltage category:	II.
Pollution degree:	2
Operation position:	vertical, downward with CIB terminal
Installation:	into installation box
DIMENSIONS AND WEIGHT	
Dimensions (plast):	85.6 x 85.6 x 20 mm
Dimensions (kov, sklo, dřevo, žula):	94 x 94 x 20 mm
Weight:	73 g

Example of connection

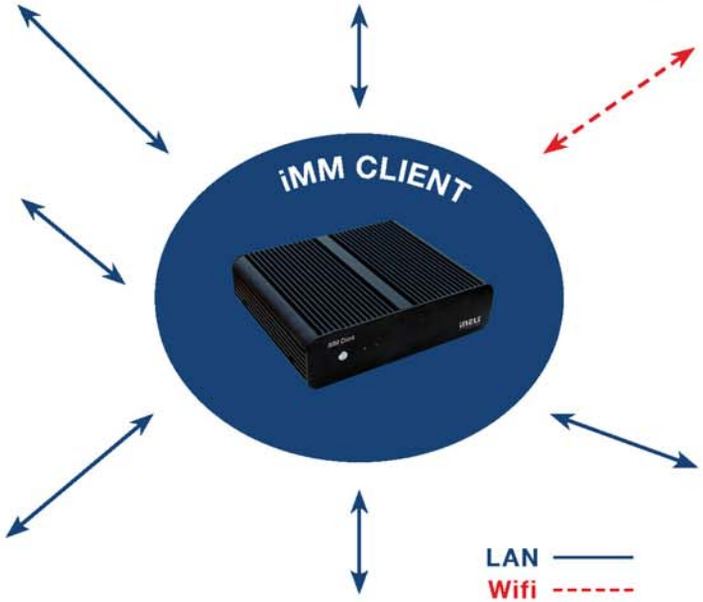


OPEN PROTOCOL

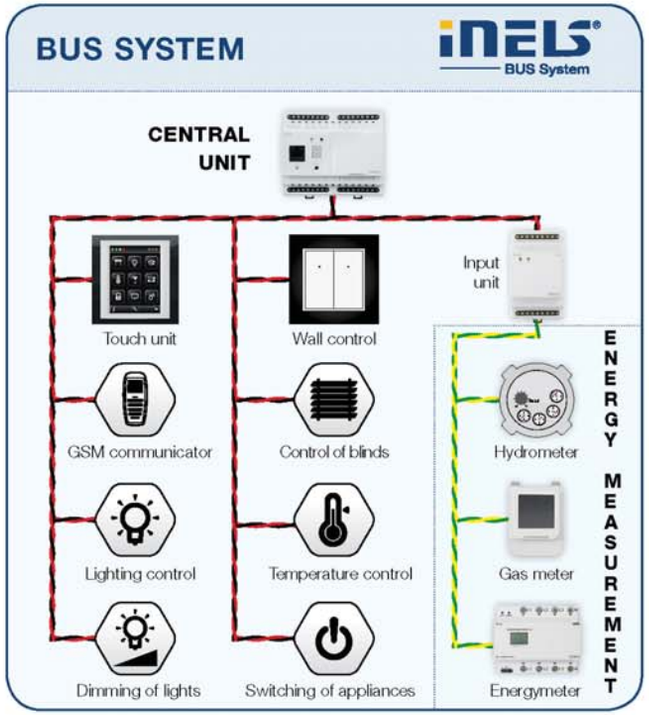
MULTIMEDIA

TABLETS / SMARTPHONES

REMOTE ACCESS



BUS SYSTEM



WIRELESS SYSTEM

INTEGRATION OF THIRD-PARTIES

EAN code

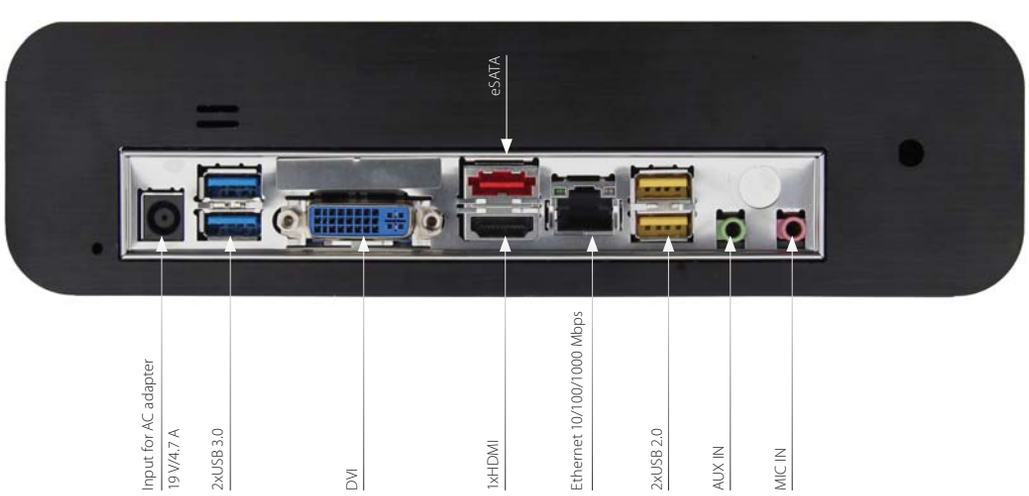
IMM CLIENT 8595188148931

- Player videozone allowing control of all system functions through the TV screen
- These features include the possibility
  - Browse photos, play movies and music from network storage
  - Watching Satellite TV programs in HD resolution
  - To display stream from up to 9 IP cameras, to control PTZ function, to record images to a network drive
  - To control lighting, jaulousie, shutters or heating at home through floorplan which can be changed according to the customer´s wishes.
  - To control Miele household appliances, air conditioning and recuperation at home
  - To monitor home energy usage (hot and cold water, power, gas)
- Audio output 3.5 mm can be used as a stereo jack for analog or optical digital output jack for optical cable to the amplifier
- The basis iMM Client is a powerful processor core Ivy Bridge and a quick start of warrants use SSD disk
- New case of iMM client is in stylish design which can be used in any interior and the aluminum body together with very quiet active cooling assure perfect ventilation of heat loss of processor

TECHNICAL PARAMETERS

Power supply:	230 V adapter (included)
Video output:	HDMI, DVI
Audio output:	3.5 mm stereo/optical JACK out, HDMI
Audio input:	3.5 mm stereo JACK in
Communication Interface:	ethernet port 1Gbps (RJ45)
Connecting peripherals:	2x USB 2.0, 2x USB 3.0, 1x eSATA
Store:	SSD 20 GB
Dimensions (WxHxD):	192 x 60 x 189 mm
Color:	black

Example of connection



OPEN PROTOCOL

NTB/PC

MULTIMEDIA

Videozone

Amplifier

Hi-Fi

LARA

eLAN-IR-003
CONVERTER
ETHERNET TO IR

TABLETS / SMARTPHONES

iOS/Apple | **Android** (2.2 and higher) | **Windows Phone**

iPad

Tablet

Tablet W8

iPhone

SmartPhone

SmartPhone W8

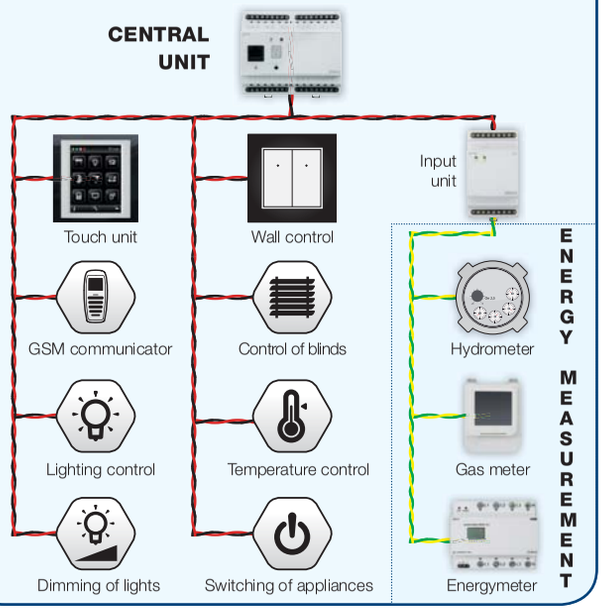
REMOTE ACCESS

CONNECTION SERVER

LAN
Wifi

BUS SYSTEM

iNELS BUS System



WIRELESS SYSTEM

iNELS RF Control

eLAN-RF-003
CONVERTER
ETHERNET TO RF

Touch unit

Wall control

Temperature controller

Remote control

Keychain

Wireless sockets

Switching actuator

Dimming actuator

Shutter actuator

Temperature actuator

Motion sensor

Detectors

RF RGB lamp | RF LED lamp

RGB strips

RGB panel

INTEGRATION OF THIRD-PARTIES

Weather station

Rrecuperation

Air conditioner/Inverter

Home appliances

iP indoor cameras

iP outdoor cameras

Door phone communicator

Security keyboard

EAN code

CONNECTION SERVER 8595188149303

TECHNICAL PARAMETERS

(Home server / Connection server)

Power supply:	MicroUSB 5V/1A
Video output:	HDMI
Audio output:	3,5 mm stereo JACK out
Communication interface:	ethernet port 10/100 Mbps (RJ45)
Connection of peripherals:	2x USB 2.0
Dimension :	100+12 x 25 x 72 mm

- It serves as a connection between iNELS system units and another devices because it allows communication between devices with different protocols.
- Connection server controls access to central unit from iHC iNELS Home Control applications and enables then the access to central unit from more then 3 devices.
- iHC applications are available for Smartphones and Tablets with Android operating system, iPhone and iPad

  Connection server enables control from application:

  - iNELS BUS System electro-installation
  - iNELS RF Control wireless electro-installation
  - IP cameras
  - Miele home appliances
  - GIOM 3000 weather station
  - Air conditioning (HVAC)
  - Measurement and visualization of energy
  - Other devices from third parties
- The whole system can be then controlled from anywhere with internet connection.
- Connection server enables you to control iNELS Smart Home solutions system from tablets, smartphones, touch panels etc.
- Easy configuration through web interface of iMM Control Center
- Very low power consumption
- Thanks to the tiny dimensions the Connection server can be placed almost everywhere
- The package includes the SD card with Linux operating system and necessary software equipment

COMPARISON OF FUNCTION OF IMM SERVER AND CONNECTION SERVER FUNCTIONS

	iNELS BUS System	iNELS RF Control	XML RPC (iHC applications)	Videozones	Audiozones	eLAN-IR	Miele	IP cameras	Air condition	Weather station GIOM3000	Weather station Clima sensor	Energy visualisation	Central storage
iMM server	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Connection server	✓	✓	✓	x	x	x	✓	✓	x	✓	x	✓	x

iMM Audio Zone

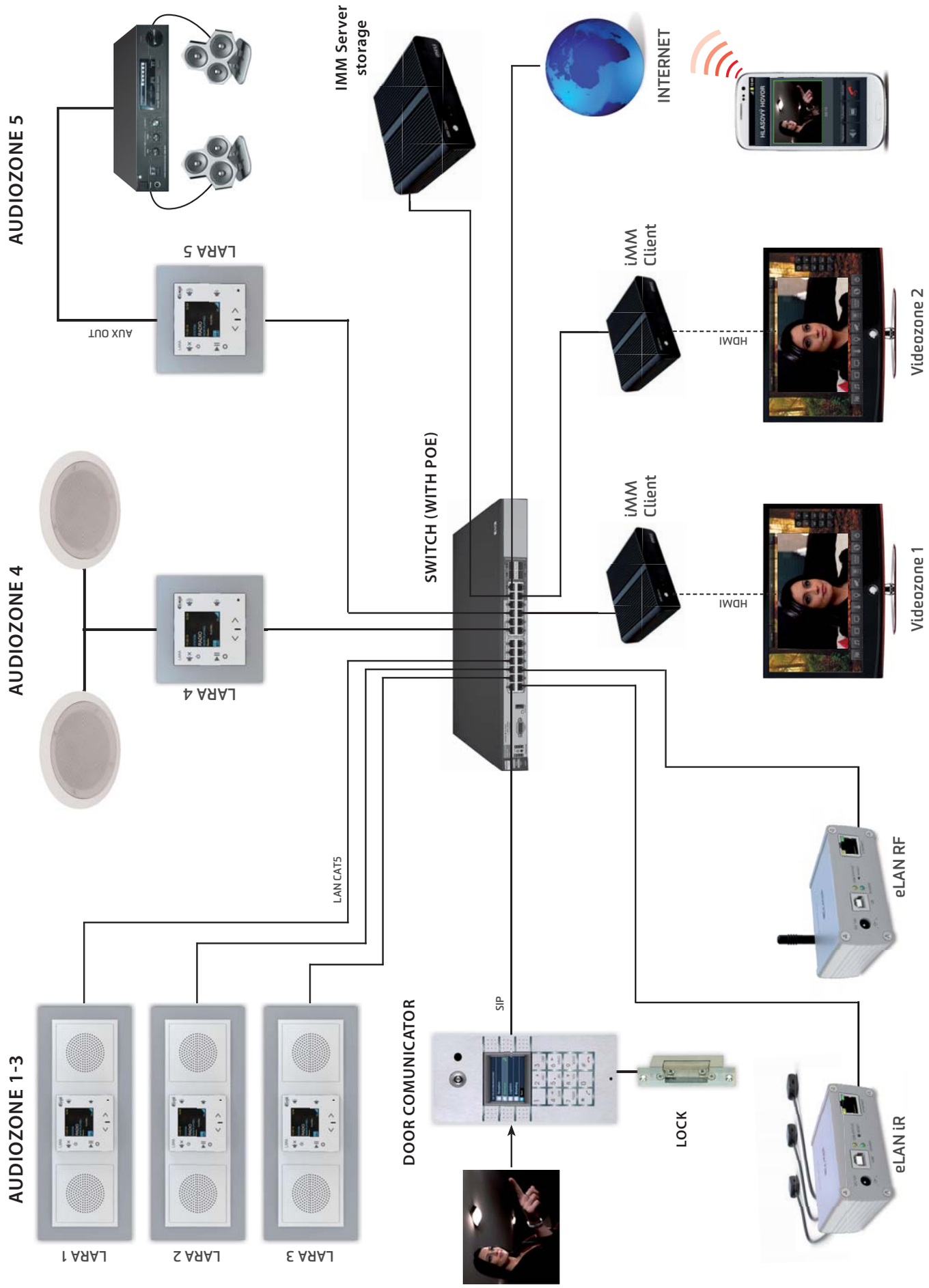
EAN code

iMM Audio Zone 8595188150125

TECHNICAL PARAMETERS

Power supply	MicroUSB 5V/1A
Video output	HDMI
Audio output	3.5 mm stereo JACK out
Communication interface	Ethernet port 10/100 Mbps (RJ45)
Connection of peripherals	2x USB 2.0
Dimension	100.6 x 73.5 x 26.5 mm

- iMM Audio Zone enables you to control audio functions of iNELS system
- It plays music through Logitech Media Server
- Whole house music system can be controlled from one site, e.g. graphical interface of TV screen or iNELS Home Control application (Android, iOS)
- iMM Audio Zone is equipped with 3,5 mm audio output jack for connection to amplifier or active speakers
- Audio zone can be connected via the HDMI cable to TV or monitor with speakers and it enables you to play music from that devices
- Configuration is performed through web interface iMM Control Center, where the IP address of audio zone, the name of audio zone and IP address of Logitech Media Server must be set
- The package includes the SD card with Linux operating system and necessary software equipment


AUDIOZONE 5
AUDIOZONE 4
AUDIOZONE 1-3
IMM Server storage
INTERNET
SWITCH (WITH POE)
iMM Client
iMM Client
HDMI
HDMI
Videozone 2
Videozone 1
LARA 5
LARA 4
LARA 1
LARA 2
LARA 3
AUX OUT
LAN CAT5
SIP
DOOR COMUNICATOR
LOCK
eLAN RF
eLAN iR

EAN code

LARA white	8595188148719
LARA ivory	8595188149242
LARA ice	8595188149228
LARA pearl	8595188149259
LARA aluminum	8595188149211
LARA gray	8595188149235
IR driver	8595188149273

- Music player and Internet radio stations - all in the size and luxury design of LOGUS90 switches.
- Unique in its class, miniature and very sophisticated device that is only connected to a LAN, which is also powered (PoE).
- If the LARA is connected to the Internet, then the LARA can overplay streaming radio and multimedia files from servers. You can also connect an external music source (iPhone, MP3 player, phone) into the audio input via 3.5mm jack.
- Also configurations and settings can not only be performed using a simple menu from the front cover of the device, but is also the possibility of remote settings via own web server equipment.
- LARA is equipped with OLED color display of size 1.5" (for basic information about playing music, the orientation of the menu settings, etc.)
- The operation is done by simply touching (Buttonless, capacitive) on the front panel or infrared remote controller that is included with the product.
- As musical output (speakers) can be selected in all types, which are supplied in the Efapel product spectrum (e.g. repro LOGUS90 21581, etc.).
- LARA has its own built-in amplifier 2x10W, ensuring sufficient power for hi-fi speakers. Suitable speakers that will be satisfying to listen in the kitchen and bathroom, we recommend the LOGUS^{90} 21581 brand, which can be coupled with LARA built into the 3-box next to each other.

TECHNICAL PARAMETERS

INTERNET RADIO

Supported file formats for data transfer:	mp3, ogg, wma, acc

CONTROL / SETTING

Front panel:	touch buttons
Remote control:	IR Remote (included)
Communication Ethernet:	via PC / smartphone / tablet connected to the network

ETHERNET INTERFACE

Communication interface:	10/100Mbps
Connector:	RJ45

DISPLAY

Type:	colored OLED
Resolution:	128x128
Visible area:	26 x 26 cm

PARAMETERS OF POWER SUPPLY

Power supply:	POE 24 DC/1.25 A
Min. power:	1.4 W
Max. power:	26W the maximum peak music power

PARAMETERS OF THE AMPLIFIER

Amplifier:	Stereo Class-D digital control output
Max. power amplifiers:	2 x10 W/8 Ohm

INPUTS/OUTPUTS

Audio input:	3.5 stereo jack
Audio output 1:	LINE OUT terminals (use for external amplifier)
Audio output 2:	terminals out L / R out (speaker output of int. amplifier)

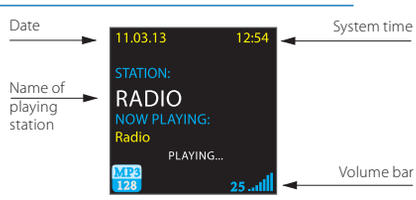
CONNECTION

Terminal:	0.5 - 1 mm^2

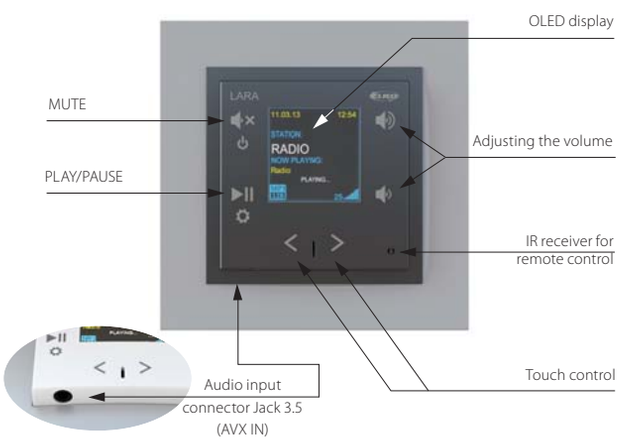
ADDITIONAL INFORMATION

Working temperature:	0 .. + 55 °C
Protection:	IP20
Over voltage category:	II.
Degree of pollution:	2
installation:	installation box
Dimensions: Frame - Plastic	85 x 85 x 20 mm
Frame - metal, glass, wood, granite	94 x 94 x 20 mm
Weight:	87 g

Description of the display:

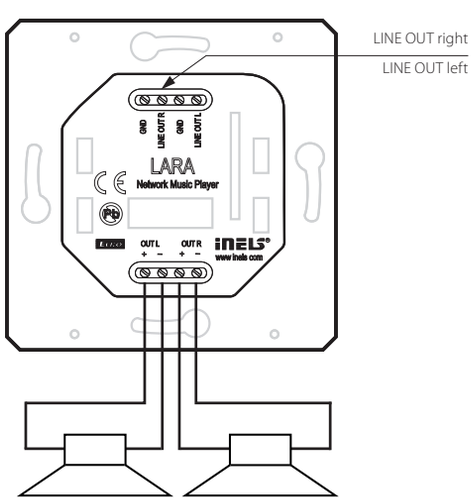


Device description:



The combination of multiple frames LOGUS^{90}:

Recommended speaker LOGUS^{90}: 21581



Connection Server

It serves as a connection between iNELS system units and another devices because it allows communication between devices with different protocols. Except the common controlling of iNELS electro-installation, it enables also e.g. control air conditioning through iHC application or control Miele household appliances through Video zone.

iMM Server

iMM multimedia server has functions of Connection Server. It enables to share pictures, music, video, TV and internet between Audio and Video zones which are placed in one house. It enables to control and monitor all units in iNELS electro-installation through the Videozones (TV).

iHC-MA

Smartphone

iHC-TA

Tablet

iHC-MI

iPhone

iHC-TI

iPad

Applications for system control for your tablet or smartphone

Development of smartphones and tablets and development of applications for these devices go together. You can control your electro-installation through the applications in your iPhone, iPad, Smartphone or tablet with the Android operating system. Apart from our competitors we provide you solution which assures you that your household appliances can be controlled through just one application. You will find here whatever you need – it provides you full controlling, monitoring and controlling of your house.

You can control not only lighting or heating, but also it enables you to switch the TV programs, play music and control air conditioning. iHC is an acronym of iNELS Home Control and letters after the hyphen means devices (T= tablet, M = mobile / smartphone) and operating system (Android = A, I = iOS / Apple).

The applications are available on AppleStore and GooglePay (former AndroidMarket).

Aplication for controling iNELS through your Smartphone, Tablet	Aplications iNELS Home Control					
	Android		iOS		Windows 8	
	Tablet	Smart Phone	iPad	iPhone	Tablet	Smart Phone
	iHC - TA	iHC - MA	iHC - TI	iHC - MI	iHC - TW	iHC - MW
Bus units controlling (lighting, shutters, sockets, scenes etc.)	✓	✓	✓	✓	coming soon	✓
Controlling the heat program	✓	✓	✓	✓	coming soon	coming soon
Controlling the multimedia	✓	✓	✓	✓	coming soon	coming soon
Connecting and Controlling the IP camera	✓	✓	✓	✓	coming soon	coming soon
Climate control	✓	✓	✓	✓	coming soon	coming soon
Controlling Miele appliances	✓	✓	✓	✓	coming soon	coming soon
Displaying data from weather station	✓	✓	✓	✓	coming soon	coming soon
Measurement and visualization of energy	✓	✓	✓	✓	coming soon	coming soon
Connection with doorphone communicator 2N Helios	✓	✓	✓	✓	coming soon	coming soon
PRICE:	**FOR FREE**	**FOR FREE**	**FOR FREE**	**FOR FREE**	**FOR FREE**	**FOR FREE**

Supported devices	Tablets and Smartphones with Android OS 2.3 and higher	iPad and iPhone with OS iOS	Tablets and Smartphones with OS Windows 8
The applications are free to dowload:	GooglePlay (formerly AndroidMarket)	AppStore	Soon Windows Store

FOR TABLETS

Software iHC- TA, iHC-TI, iHC-TW > Basic

EAN code Software iHC-TA Basic 8595188146333

iHC-TA Software is for touch panels with Android OS, iOS or Windows 8 basic version, with which you can control the elements of the field bus of the bus bar of your iNELS intelligent electro-installation in your house(without the possibility of controlling the heat program)

Software iHC- TA iHC-TI, iHC-TW > Multimedia

EAN code Software iHC-TA Multimedia 8595188146340

iHC-TA Software is for touch panels with Android OS, iOS or Windows 8 multimedia version, with which in addition you can, comparing to the basic version, control the heating program, IP cameras and the multimedia.

Software iHC- TA iHC-TI, iHC-TW > Full Control

EAN code Software iHC-TA Multimedia 8595188146357

iHC-TA Software is for touch panels with Android OS, iOS or Windows 8 full version, with which in addition you can, comparing to the multimedia version, control the climate, air conditioning, recovery, and Miele appliances visualizing energy

FOR SMARTPHONES

Software iHC- MA, iHC-MI, iHC-MW > Basic

EAN code Software iHC-MA Basic 8595188160490

iHC-MA Software is for smart phones with Android OS, iOS or Windows 8 basic version, with which you can control the elements of the field bus of the bus bar of your iNELS intelligent electro-installation in your house(without the possibility of controlling the heat program)

Software iHC- MA, iHC-MI, iHC-MW > Multimedia

EAN code Software iHC-MA Multimedia 8595188160506

iHC-MA Software is for smart phones with Android OS, iOS or Windows 8 multimedia version, with which in addition you can, comparing to the basic version, control the heating program, IP cameras and the multimedia.

Software iHC- MA, iHC-MI, iHC-MW > Full Control

EAN code Software iHC-MA Multimedia 8595188160513

iHC-MA Software is for smart phones with Android OS, iOS or Windows 8 full version, with which in addition you can, comparing to the multimedia version, control the climate, air conditioning, recovery, and Miele appliances visualizing energy

ACCESSORIES iNELS

Recommended accessories iNELS will always find in the current issue of the Price List for www.elkoep.com

EAN code

Elan-IR-003: 8595188132831

- The smart box can be used in two different ways such as:
  - a component of iNELS BUS System - by IR signal controls devices of third parties
  - indendent device or „The fear of IR controllers" = consolidates all controllers under one.
- Elan-IR-003 is a converter from Ethernet network commands to IR code
- The smart box can control devices which are controled by IR remote controllers, e.g. TV, video, satellite, DVD, amplifier, stereo system, air condition, fans etc.
- In case of integration a smart box to iNELS BUS System there is possibility to control all devices mentioned above through:
  - an apllication (Smart phone and tablets with Android operating system, iPhone and iPad) designed for entire electro-installation and multimedia
  - screen TV using Videozone
- If the smart box is used as independent device, there is a possibility to control up to 3 independent devices through the iHC-MAIR application (for Smartphones with Android operating system) or the iHC-MIIR (for iPHONE). There is no need to place devices in visible distance.
- The ability to program up to 100 IR codes
- Supporting IR codes for the frequency of 20-455 kHz

TECHNICAL PARAMETERS

IR SENSOR - LEARNING MODE

Senzor IR:	Infrared sensor for learning IR codes
The carrier IR frequency:	20 - 455 kHz
Learning distance:	till 1m

OUTPUTS

Output:	3x IR transmitter
Connection:	3x 3.5 Jack connector, cable length 3 m
Output indication:	3x LED green status IR1-IR3
Range:	Up to 1m from the device

ETHERNET COMMUNICATION

Indication of ETH operating status:	Green LED
Indications of ETH communication:	Yellow LED
communication Interface:	10/100 Mbps (RJ45)
Default IP address:	192.168.1.1

POWER SUPPLY

Voltage supply / jm. current:	10-27 V DC / 200 mA (safe low voltage)
Connection:	Jack connector Ø 2.1 mm
Voltage supply indication:	Green LED

OTHER DATA

Other possibilities of wiring:	USB-B connector
Indication:	Yellow USB LED status
Reset button:	settings to their default values
Power Supply:	230 VAC / 12 V DC supplied with the data logger

OPERATING CONDITIONS

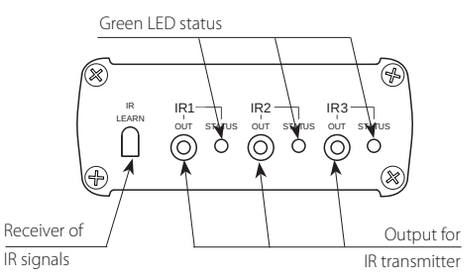
Working temperature:	-20 .. +55 °C
Storage temperature:	-25 .. +70 °C
Degree of protection:	IP 30
Degree of pollution:	2
Operating position:	arbitrary
Installation:	free
Design:	design box

DIMENSIONS AND WEIGHT

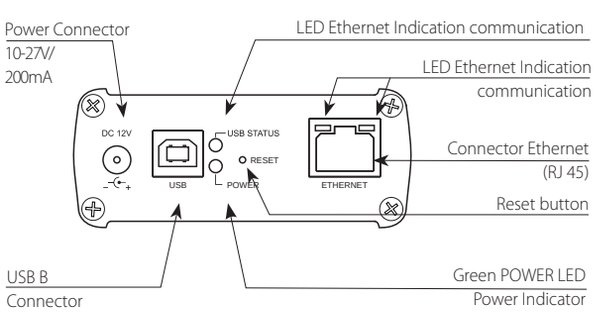
Dimensions:	90 x 52 x 65 mm
Weight:	136 g

Example of connection:

The front panel of eLAN-IR



The back panel of eLAN-IR



eLAN-RF-003

eLAN-RF-Wi-003

EAN code

eLAN-RF-003: 8595188146845
eLAN-RF-Wi-003: 8595188148726
External antenna AN-E: 859415759012
Internal antenna AN-I: 8595188161862

EXTERNAL ANTENNA AN-E

- The smart boxes eLAN-RF-003 and eLAN-RF-Wi-003 are also used to control wireless actuators of iNELS RF Control system through iNELS Multimedia
- Insertion of smart boxes to the system enables you to control bus and wireless actuators through the videozone or via one of the iNELS Home Control application.
- Communication between the devices and iMM multimedia server are done through:
  - eLAN-RF-003: wired Ethernet access
  - eLAN-RF-Wi-003: wired Ethernet access or wireless access using Wi-Fi networks
- The device communicates with the actuators in both directions - ie. it is able to send back information on the status of wireless actuator
- The smart boxes are used in iNELS BUS System with iNELS Multimedia, but also can be used separately in iNELS RF Control system.
- They enable to control lights, blinds, heating via:
  - iHC-MRF Application for smartphones (Android operating system)
  - iHC-TRF Application for tablets (Android operating system)
  - Web browser
- The device has the fuction of repeater (signal repeater) thus extends the RF signal
- Smart boxes are used also in a network, when you have a problem to transfer the wireless signal between the ceilings of the house (which are mostly from reinforced concrete).
  - here we use two WiFi routers or an Ethernet cable connection
- Included is an internal antenna, optional external antenna is labeled AN-E

TECHNICAL PARAMETERS

INTERFACE RF CONTROL

Communication protocol:	OASIS & RF Touch Compatible
Broadcasting frequency	868 MHz
Signal transfer method:	two-way addressed message
Output for antenna:	SMA connector
Antenna RF:	1 dB (part of supply)
Indications RF communications:	1 x red RF com. LED
Range in free space:	up to 100m

INTERFACE ETHERNET

ETH operating status indicator:	green LED
ETH communication indicator:	yellow LED
Communications interface:	10/100 Mbps (RJ45)
Preset IP address:	192.168.1.1

INTERFACE WIFI

	eLAN-RF-003	eLAN-RF-Wi-003
Frequency range of WiFi	x	2.405-2.480 Hz
Standard:	x	IEEE 802.11 b/g/n
WiFi Security:	x	WEP, WPA-PSK, WPA2-PSK
Certification:	x	United States (FCC), Canada(IC),
	x	Europe(ETSI), Japon(ARIB)
Communication interface:	x	1 Mb/sec
Výstup pro anténu WiFi:	x	R-SMA
WiFi antenna output:	x	1 dB (part of supply)
Indication of WiFi communication:	x	1 x green WiFi status LED
Range:	x	200 m

POWER SUPPLY

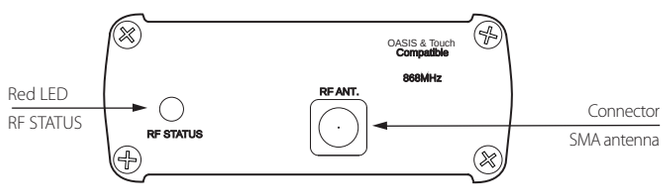
Supply voltage/current:	10-27 V DC / 200 mA SELV
Power:	adapter with connector Jack Ø 2.1 mm (part of supply) or connector USB-B
Supply voltage indication:	green LED POWER

OTHER DATA

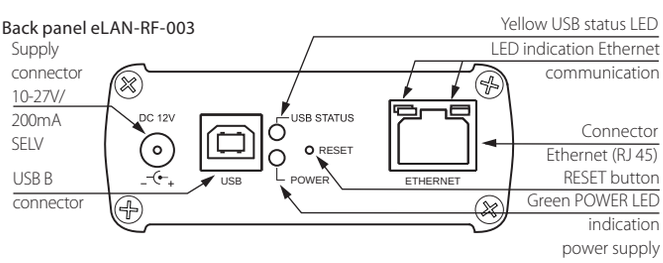
Indication:	yellow USB status LED
RESET button:	reset defaults
Power source:	230 VAC / 12 V DC part of supply of device
Operating temperature:	-20 .. +50 °C
Storage temperature:	-25 .. +70 °C
Protection:	IP20
Contamination degree:	2
Working position:	any
Installation:	free
Design:	installation box
Dimensions:	90 x 52 x 65 mm
Weight:	136 g

Connection eLAN-RF -003

Front panel eLAN-RF-003

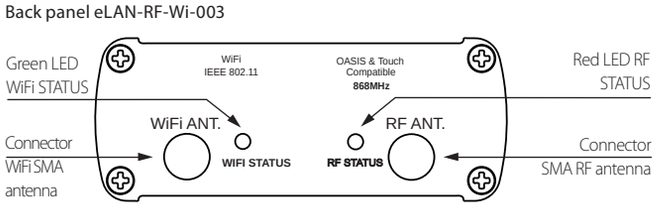


Back panel eLAN-RF-003

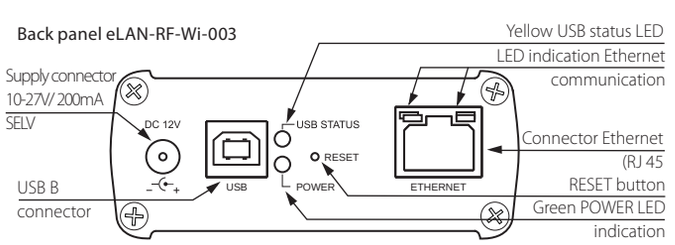


Connection eLAN-RF-Wi-003

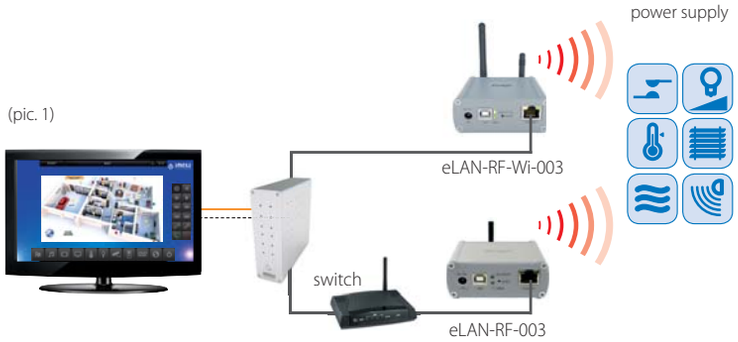
Back panel eLAN-RF-Wi-003



Back panel eLAN-RF-Wi-003



(pic. 1)



EAN code

TELVA 230V, NC 4031602000286
TELVA 230V, NO 4031602000309
TELVA 24V, NC 4031602000293
TELVA 24V, NO 4031602000316

- The thermo electric drive TELVA is intended for zone or individual regulation with high differential pressures
- Regulating thermostatic valves of floor, radiator and convector heating
- Stepped through the valve-adapter VA, the thermodrive can be used for a wide range of thermostatic valves which are available on the market
- Thermo drive TELVA is used to regulate heating in the iNELS RF Control a iNELS BUS Systems:

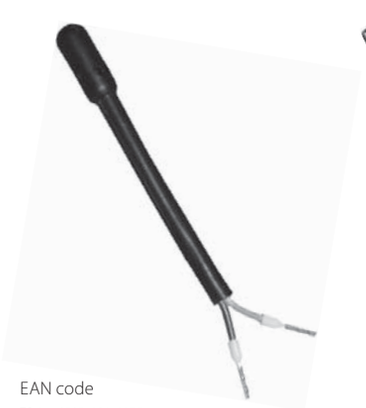
  - TELVA 230 V and TELVA 24 V with any system switching actuator
  - TELVA 230 V and TELVA 24 V : work in the open/closed modes

- Main features:
  - noise-free operation
  - design: without voltage opened / without voltage closed
  - valve position visual indicator
- Application:

  TELVA 230V and TELVA 24V standard with valve-adapter VA 80 * in the low version with rod M30 x 1.5 (white-gray). This valve-adapter is compatible with valves Manufacturers: Heimeier, MNG (from 1998), Onda, Oventrop (from 1997), Schlosser, Beulco (from 2005), Bohnish-BK (from 1998), Cazzaniga, Dumser, Honeywell&Braukmann, Ivar, Reich (distributor), Bohnisch-SBK

TECHNICAL PARAMETERS

	TELVA 230 V	TELVA 24 V
Operating voltage:	230V, 50/60 Hz	24V, 50/60 Hz
Switching current max:	300 mA or 2 min. at max.	250 mA for 2 min. at max.
Operating current:	8 mA	75 mA
Closing / opening time:	dtto 3 min.	dtto 3 min.
Power input:	1.8 W	1.8 W
Protection:	IP 54/II	IP 54/II
Settings:	4 mm	4 mm
Stopping force:	100 N ±5 %	100 N ±5 %
Cable length:	1 m	1 m
Connecting wire:	2 x 0.75 mm^2	2 x 0.75 mm^2
Media temperature:	0.. +100 °C	0.. +100 °C
Color:	white RAL 9003	white RAL 9003
Dimensions h/w/d:	55+5 x 44 x 61 mm	55+5 x 44 x 61 mm



EAN code

TC-0 8595188110075
TC-3 8595188110617
TC-6 8595188110082
TC-12 8595188110099

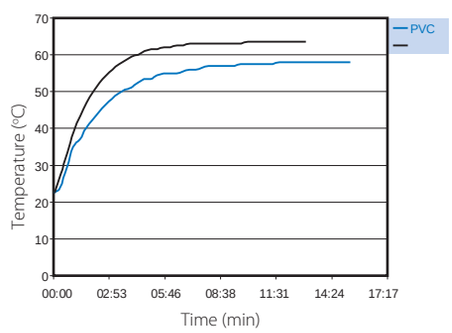
EAN code

TZ-0 8595188140591
TZ-3 8595188110600
TZ-6 8595188110594
TZ-12 8595188110587

- Temperature sensors TC and TZ are designed for temperature sensing
- Temperature sensors are made from NTC, and sealed in a metal tube by thermoconductive glue
- Thermal contact between thermistor and thermal sensor surroundings
- Sensor TZ is suitable mainly in extreme temperatures
- 2 types of thermal sensors:
  - TC - service wire to sensor TC is made of conductor CYSY 2D x 0.02 ˝
  - TZ - sensor TZ is made of wire VO3SS-F 2D x 0.5mm with silicon insulation
- Dimensions of the sensors TC
  - TC-0 - 5 g (0.2 oz.)
  - TC-3 - 108 g (3.8 oz.)
  - TC-6 - 213 g (7.5 oz.)
  - TC-12 - 466 g (16.4 oz.)
- Dimensions of the sensors TZ
  - TZ-0 - 4.5 g (0.16 oz.)
  - TZ-3 - 106 g (3.74 oz.)
  - TZ-6 - 216 g (7.6 oz.)
  - TZ-12 - 418g (14.7 oz.)

	TC	TZ
Range:	0 °C to +70 °C (32 °F to 158 °F)	-40 °C to +125 °C (-40 °F to 257 °F)
Scanning element:	NTC 12K 5 %	NTC 12K 5 %
τ65 - in air/ in water:	92 s / 23 s	62 s / 8 s
τ95 - in air/ in water:	306 s / 56 s	216 s / 23 s
Cable material:	Heat-resistant PVC	silicone
Terminal material:	Heat-resistant PVC	nicel-couted copper
Protection degree:	IP 67	IP 67

Diagram of sensor warm up via air



PVC - reaction to water temperature from 22.5 °C to 58 °C (from 72.5 °F to 136.4 °F)

Silicone - reaction to water temperature from 22.5 °C to 63.5 °C (from 72.5 °F to 144.5 °F)

Temperature (°C /°F)	Sensor resistance(kΩ)
20	14.7
30	9.8
40	6.6
50	4.6
60	3.2
70	2.3

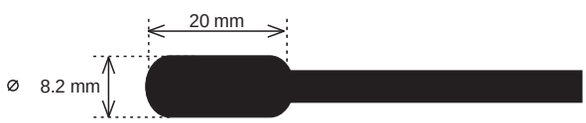
Temperature sensors for range 0°C to +70°C (32°F to 158°F)

TC-0 - temperature sensor can be connected directly to terminal block
(lenght of sensor 110mm/ 4.33˝)
TC-3 - temperature senzor 3 m (9.8´)
TC-6 - temperature sensor 6 m (19.7´)
TC-12 - temperature sensor 12 m (39.4´)

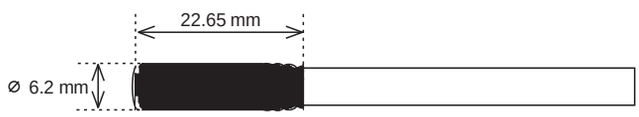
Temperature sensors for range -40°C to +125°C (-40°F to 257°F)

TZ-0 - temperature sensor can be connected directly to terminal block
(lenght of sensor 110mm/ 4.33˝)
TZ-3 - temperature sensor 3 m (9.8´)
TZ-6 - temperature sensor 6 m (19.7´)
TZ-12 - temperature sensor 12 m (39.4´)

Sensor TC drawing



Sensor TZ drawing



Sensor TC-3 photo

Sensor TZ-3 photo

EAN code

DTNVEM 1/CIB 8590681461501

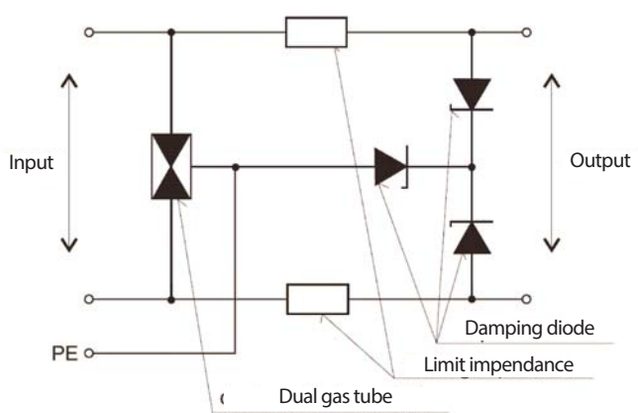
- Surge guard device (SPD) according to ČSN EN 61643-21 (category A2,B2,C2,C3,D1) designated for protection of system CIB against thunderstroke overvoltage.
- Recommended position is by the start of conduction coming from outside into the building, then on the edge of other LPZ (according to EN 62305) and near to protected device. The lenght between protector and protected device can not be more than 10meters.
- DTNVEM 1/CIB is constructed form the base and the changeable module, which contains its own protection. Base is permanently connected and in the case of revision or demage, there is manipulation only with changeable module. Base is through-transit also without changeable module (circuit is on).
- Protection is designated for permanent current max.0,5A. Already during the projecting of aplication is neccessary to secure this max. limit.

TECHNICAL PARAMETERS

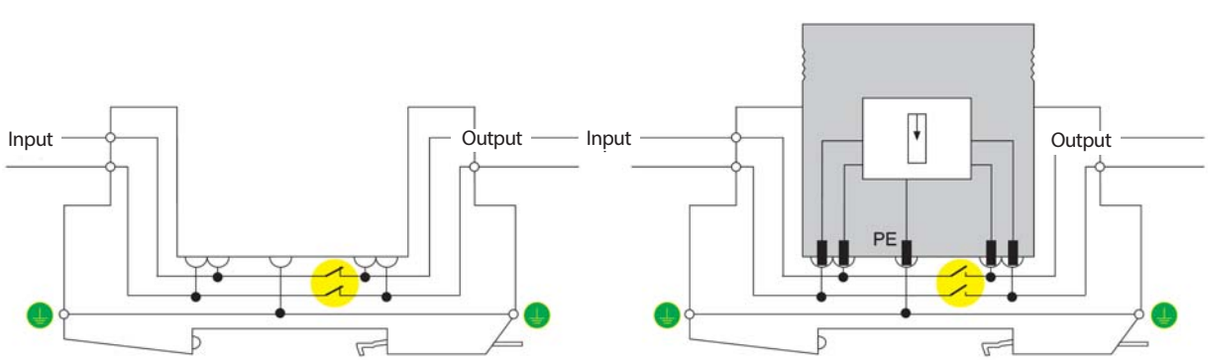
SPD category according to EN 61643-21:		A2,B2, C2, C3, D1
Rated operation voltage:	U_n	24V DC
Max. permanent operation voltage:	U_C	36V DC
Max. permanent current:	I_N	0,5A DC
Number of protected pairs:		1
SPD for system CIB (Foxtrot / iNELS):		DTNVEM 1 / CIB
Impulse current Iimp (10/350):	I_{imp}	2.5kA / wire
Max. tube current Imax (8/20):	I_{max}	10kA / wire
Rated tube current In (8/20):	I_n	1kA / wire
Responce time:	U_P	< 75V (A/B, A/PE, B/PE)
Operation temperature range:	t_A	< 30 ns
Recommended profile of connec. contafactors:	ϑ	2.5 mm² (AWG 12)
Mounting type:		on DIN rail 35mm/1.4"
Protection degree:		IP20

Internal scheme of changeable module connection

DTNVEM 1/CIB is connected with output in direction of protected device



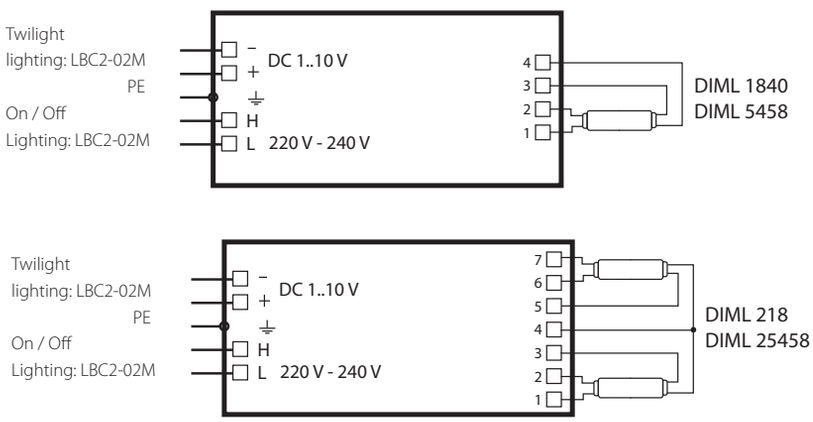
Typical connection of protector DTNVEM 1/CIB

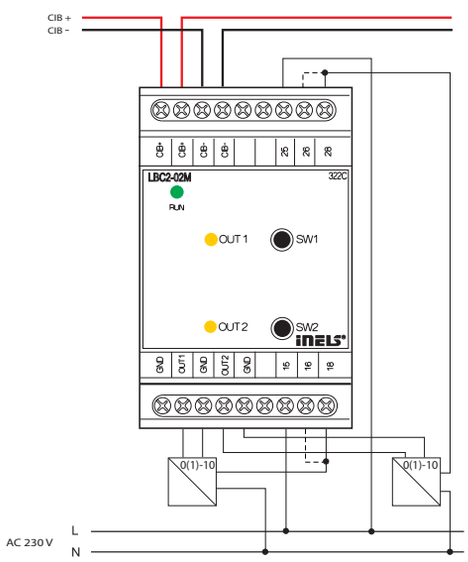


- Dimmable ballast DIML serves for regulation of brigtness of fluorescent lights with tubes T8 (diameter 26 mm/ 0.6 ").
- In case this ballast is not installed already by a light manufacturer, it is possible to mount it additionally into it. Retrofit is also possible – it means you replacement of an original equipment by this dimmable ballast.
- Advantage (except for function dimming) is so called „soft start" meaning gradual dimming up. This extends lifetime of light sources.
- Dimmable ballast is controlled by signal 1-10 V and it is to be connected to bus of iNELS system by converters DAC2-04M, DAC2-04B or LBC2-02M.
- It comes in four types, according to output of used light sources (fluorescent tubes) see chart.

EAN code
DIML 1840 - 8009991027845
DIML 22440 - 8009991027913

Connection





TECHNICAL PARAMETERS

Article		V min.-max.	A		W LAMPADA	λ	ta °c	tc °c	[mm]	g	L [mm]	P [mm]	H [mm]		Code
				1x...											
			0,103	18 T8	16										
			0,130	25 T8	25										
			0,147	30 T8	27										
			0,174	36 T8	32										
			0,093	18 TC-L	16										
			0,133	24 TC-L	22										
			0,153	36 TC-L	32										
DIML1840		220÷240	0,203	40 TC-L	40	0,98	10...+60	75	0,5÷1,5	340	359	29	26	1	DL118-40
			0,090	18 TC-F	16										
			0,120	24 TC-F	24										
			0,155	36 TC-F	32										
			0,126	24 T5	22,5										
			0,178	39 T5	38										
			0,127	22 FC-T5C	22										
			0,210	40 FC-T5C	40										
				2x...											
			0,175 0,160 0,160	18 T8 18 TC-L 18 TC-F 25T8	16	0,98	10...+60								
			0,260	30 T8	27		0÷60								
			0,315	36 T8	32										
DIML22440		220÷240	0,210	24 TC-L	22			75	0,5÷1,5	340	359	29	26	1	DL224-40
			0,275	36 TC-L	32										
			0,355	40 TC-L	40										
			0,218	24 TC-F	22										
			0,280	36 TC-F	32	0,98	10...+60								
			0,210	24 T5	22,5										
			0,350	39 T5	38										
			0,210	22 FC-T5C	19										
			0,303	40 FC-T5C	40										

Loadability of contacts

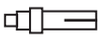
SA3-02B; SA3-06M; SA3-012M; WMR3-11									
Type of load	AC1	AC2	AC3	AC5a uncompensated	AC5a compensated	AC5b	AC6a	AC7b	AC12
Contact materialAgSnO$_2$ contact 8A	250V / 8A	250V / 2.5A	250V / 1.5A	230V / 1.5A (345VA)	230V / 1.5A (345VA) till max output C=14uF	250W	250V / 4A	250V / 1A	250V / 1A
Type of load	AC13	AC14	AC15	DC1	DC3	DC5	DC12	DC13	DC14
Contact materialAgSnO$_2$ contact 8A	x	250V / 3A	250V / 3A	24V / 8A	24V / 3A	24V / 2A	24V / 8A	24V / 1A	x

LBC3-02M; SA3-01B; SA3-02M; SA3-04M									
Type of load	AC1	AC2	AC3	AC5a uncompensated	AC5a compensated	AC5b	AC6a	AC7b	AC12
Contact materialAgSnO$_2$ contact 16A	250V / 16A	250V / 5A	250V / 3A	230V / 3A (690VA)	230V / 3A (690VA) till max output C=14uF	1 500W	x	250V / 3A	250V / 10A
Type of load	AC13	AC14	AC15	DC1	DC3	DC5	DC12	DC13	DC14
Contact materialAgSnO$_2$ contact 16A	250V / 6A	250V / 6A	250V / 6A	24V / 16A	24V / 6A	24V / 4A	24V / 16A	24V / 2A	24V / 2A

SA3-02B/Ni; SA3-06M/Ni; SA3-012M/Ni									
Type of load	AC1	AC2	AC3	AC5a uncompensated	AC5a compensated	AC5b	AC6a	AC7b	AC12
Contact materialAgNi * contact 8A	250V / 8A	250V / 2.5A	250V / 1.5A	230V / 1.5A (345VA)	x	400W	x	250V / 1.5A	250V / 5A
Type of load	AC13	AC14	AC15	DC1	DC3	DC5	DC12	DC13	DC14
Contact materialAgNi * contact 8A	250V / 3A	250V / 3A	250V / 3A	24V / 8A	24V / 3A	24V / 2A	24V / 8A	24V / 1A	24V / 1A

SA3-01B/Ni; SA3-02M/Ni; SA3-04M/Ni									
Type of load	AC1	AC2	AC3	AC5a uncompensated	AC5a compensated	AC5b	AC6a	AC7b	AC12
Contact materialAgNi * contact 16A	250V / 16A	250V / 5A	250V /3A	230V / 3A (690VA)	x	800W	x	250V / 3A	250V / 10A
Type of load	AC13	AC14	AC15	DC1	DC3	DC5	DC12	DC13	DC14
Contact materialAgNi * contact16A	250V / 6A	250V / 6A	250V / 6A	24V / 16A	24V / 6A	24V / 4A	24V / 16A	24V / 2A	24V / 2A

Demonstrated symbols are informative
*Products with AgNi contact only up on request for extra charge.

Load	bulbs, halogen bulbs	12–24V low-voltage bulbs, coil transformers	12–24V low-voltage bulbs, electric transformers	LEDs	energy-saving fluorescent tubes	control method	
							
	R	L	C	dimmable	dimmable	entering edge	trailing edge
DA3-22M	●	●	●	●	●	●	●

MINIMUM LOAD		
RELAY CONTACT	mV	V/mA
$AgSnO_2$	1000	10/100

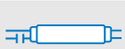
MINIMUM LOAD		
RELAY CONTACT	mV	V/mA
AgNi	300	5/10

Explanations

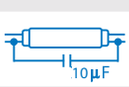
El. bulbs loads: (R)
el. bulb, halogen light

Dimmer with defined load:
R - resistive, L - inductive, C - capacitive

Fluorescent light:
fluorescent lights uncompensated



Fluorescent light:
fluorescent light compensated in series



Fluorescent light:
fluorescent light compensated in parallel

Fluorescent light:
fluorescent light economical

Elektronic ballasts for fluorescent

Inductive loads (transformers): (L)
feromagnetic and toroid transformers for lights with various voltage.

Explanations

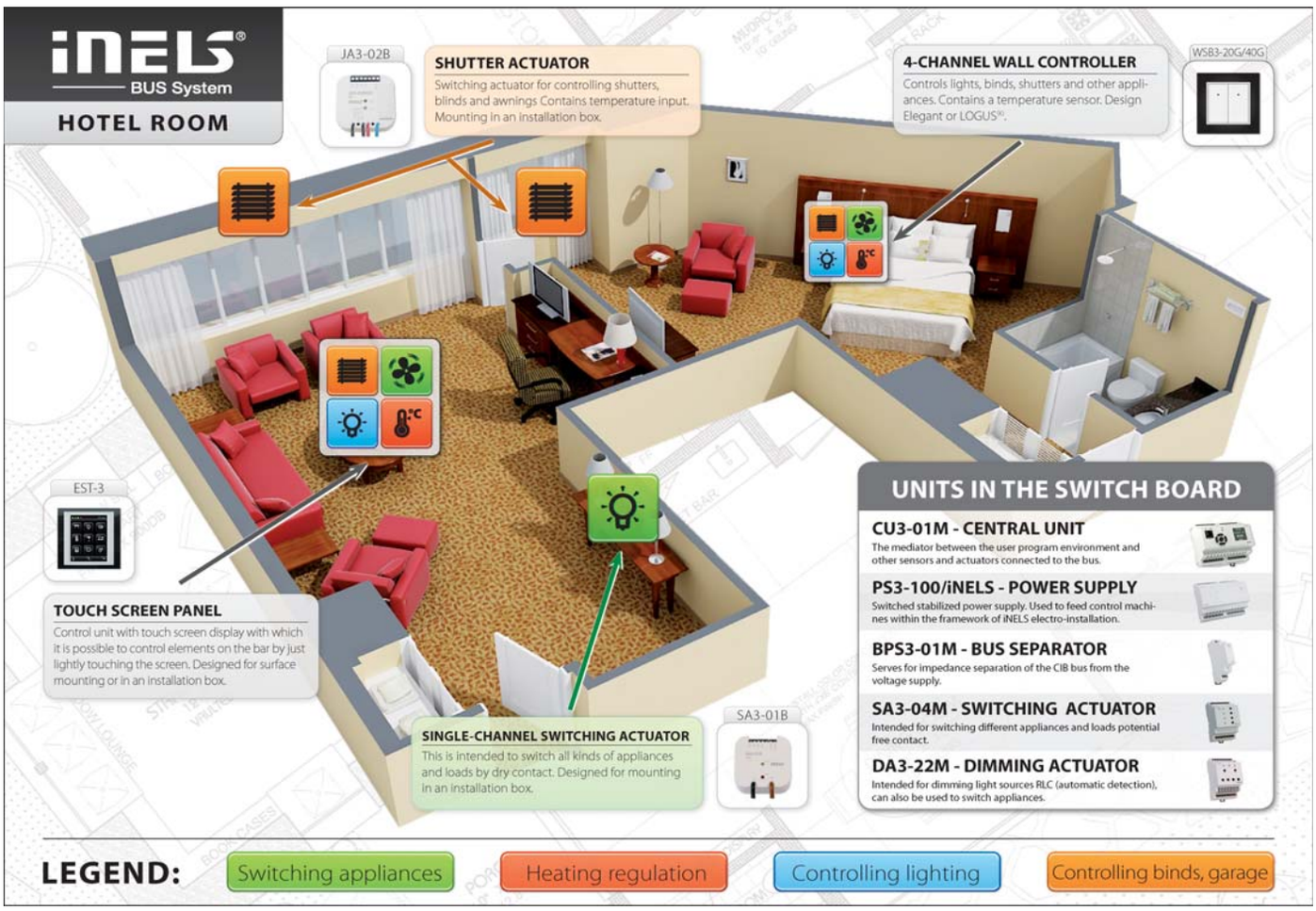
Switch:
switch - control contact of various device

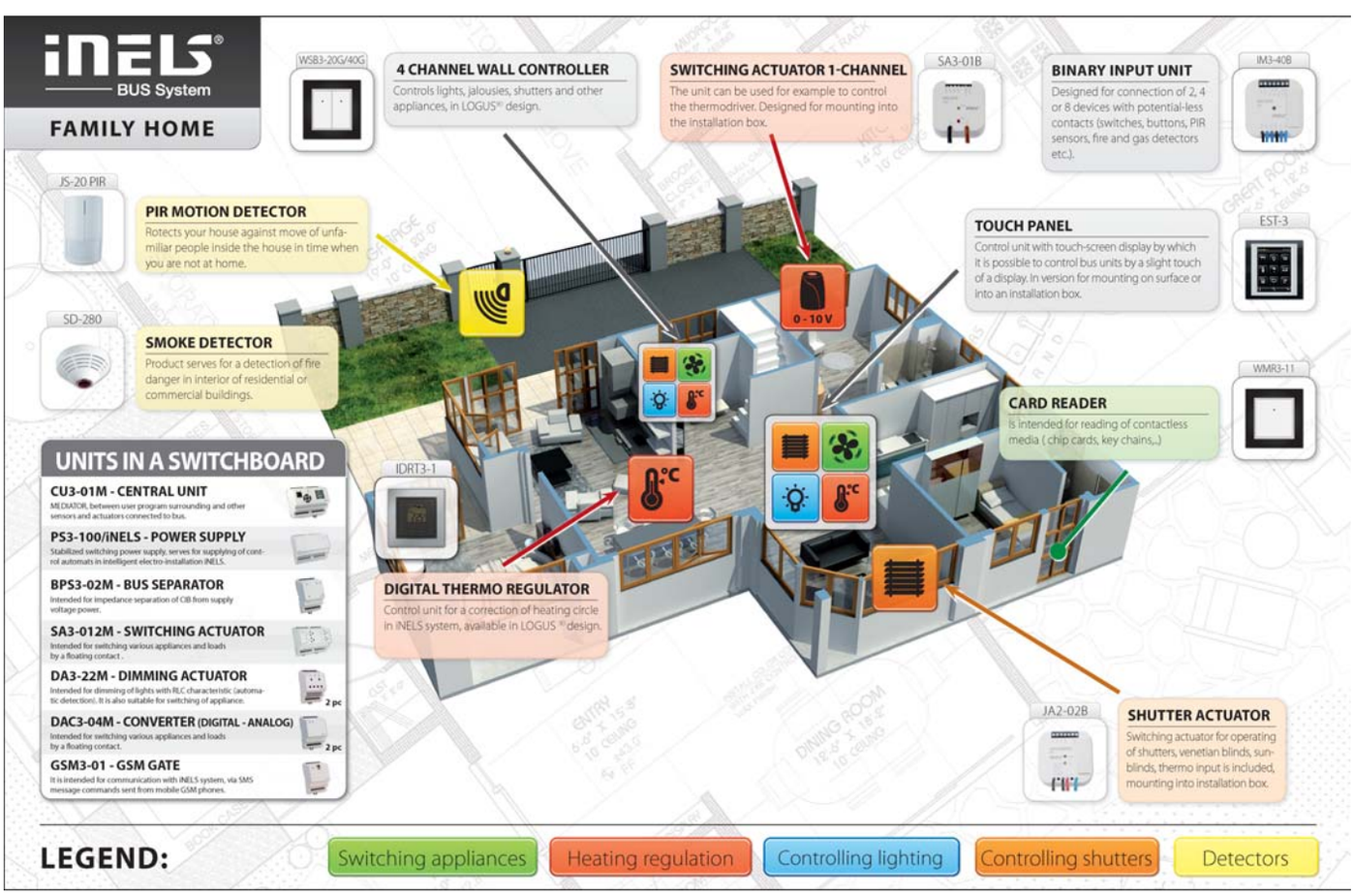
Button:
control button

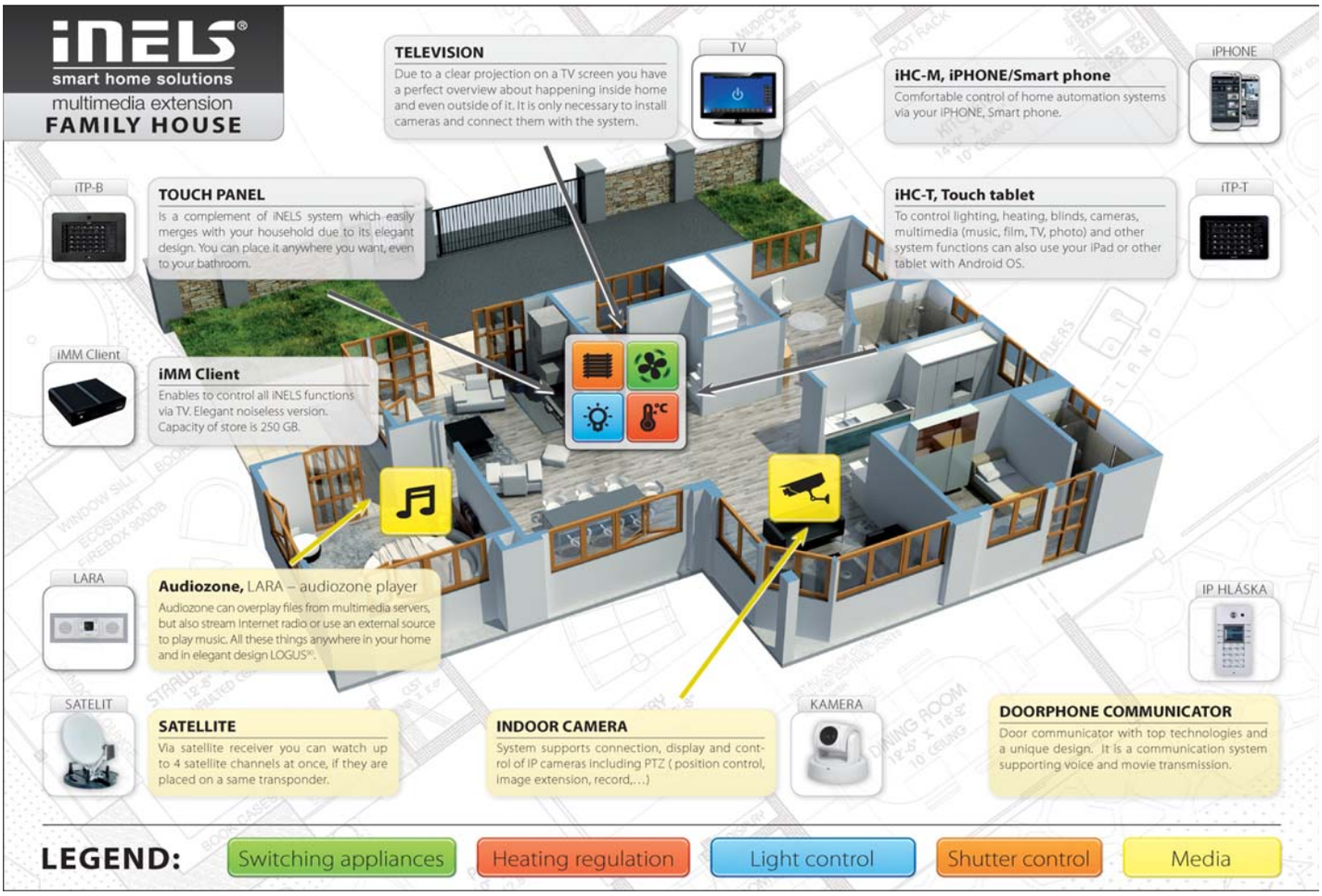
Control module:
analog control module 0 - 10 V

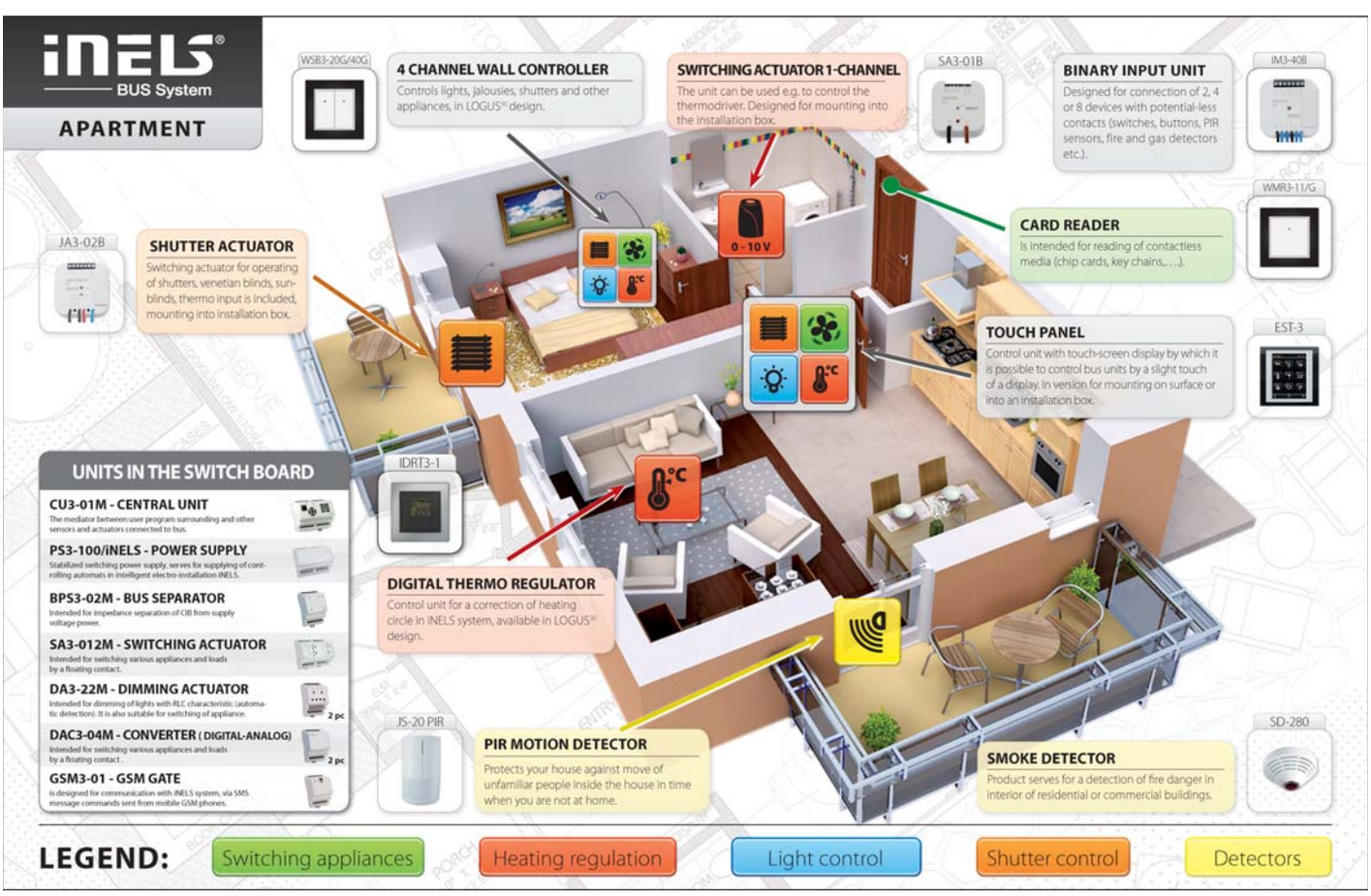
Motor

AC1	non-inductive or low inductive loads resistive furnaces
AC3	motors with short-way armatour, start-up of motors in operation
AC15	managemens of AC electromagnetic loads
DC1	non-inductive or low inductive loads, resistive furnaces


iNELS BUS System
HOTEL ROOM
JA3-02B
SHUTTER ACTUATOR
Switching actuator for controlling shutters, blinds and awnings Contains temperature input. Mounting in an installation box.
4-CHANNEL WALL CONTROLLER
Controls lights, binds, shutters and other appliances. Contains a temperature sensor. Design Elegant or LOGUS90.
WSB3-20G/40G
EST-3
TOUCH SCREEN PANEL
Control unit with touch screen display with which it is possible to control elements on the bar by just lightly touching the screen. Designed for surface mounting or in an installation box.
SINGLE-CHANNEL SWITCHING ACTUATOR
This is intended to switch all kinds of appliances and loads by dry contact. Designed for mounting in an installation box.
SA3-01B
UNITS IN THE SWITCH BOARD
CU3-01M - CENTRAL UNIT
The mediator between the user program environment and other sensors and actuators connected to the bus.
PS3-100/iNELS - POWER SUPPLY
Switched stabilized power supply. Used to feed control machines within the framework of iNELS electro-installation.
BPS3-01M - BUS SEPARATOR
Serves for impedance separation of the CIB bus from the voltage supply.
SA3-04M - SWITCHING ACTUATOR
Intended for switching different appliances and loads potential free contact.
DA3-22M - DIMMING ACTUATOR
Intended for dimming light sources RLC (automatic detection), can also be used to switch appliances.
LEGEND:
Switching appliances
Heating regulation
Controlling lighting
Controlling binds, garage


iNELS BUS System
FAMILY HOME
WSB3-20G/40G
4 CHANNEL WALL CONTROLLER
Controls lights, jalousies, shutters and other appliances, in LOGUS90 design.
SWITCHING ACTUATOR 1-CHANNEL
The unit can be used for example to control the thermodriver. Designed for mounting into the installation box.
SA3-01B
BINARY INPUT UNIT
Designed for connection of 2, 4 or 8 devices with potential-less contacts (switches, buttons, PIR sensors, fire and gas detectors etc.).
IM3-40B
JS-20 PIR
PIR MOTION DETECTOR
Rotects your house against move of unfamiliar people inside the house in time when you are not at home.
TOUCH PANEL
Control unit with touch-screen display by which it is possible to control bus units by a slight touch of a display. In version for mounting on surface or into an installation box.
EST-3
SD-280
SMOKE DETECTOR
Product serves for a detection of fire danger in interior of residential or commercial buildings.
0 - 10 V
WMR3-11
CARD READER
is intended for reading of contactless media (chip cards, key chains,..)
UNITS IN A SWITCHBOARD
CU3-01M - CENTRAL UNIT
MEDIATOR, between user program surrounding and other sensors and actuators connected to bus.
PS3-100/iNELS - POWER SUPPLY
Stabilized switching power supply, serves for supplying of control automats in intelligent electro-installation iNELS.
BPS3-02M - BUS SEPARATOR
Intended for impedance separation of CIB from supply voltage power.
SA3-012M - SWITCHING ACTUATOR
Intended for switching various appliances and loads by a floating contact .
DA3-22M - DIMMING ACTUATOR
Intended for dimming of lights with RLC characteristic (automatic detection). It is also suitable for switching of appliance.
2 pc
DAC3-04M - CONVERTER (DIGITAL - ANALOG)
Intended for switching various appliances and loads by a floating contact.
2 pc
GSM3-01 - GSM GATE
It is intended for communication with iNELS system, via SMS message commands sent from mobile GSM phones.
IDRT3-1
DIGITAL THERMO REGULATOR
Control unit for a correction of heating circle in iNELS system, available in LOGUS 90 design.
JA2-02B
SHUTTER ACTUATOR
Switching actuator for operating of shutters, venetian blinds, sunblinds, thermo input is included, mounting into installation box.
LEGEND:
Switching appliances
Heating regulation
Controlling lighting
Controlling shutters
Detectors


iNELS
smart home solutions
multimedia extension
FAMILY HOUSE
TELEVISION
Due to a clear projection on a TV screen you have a perfect overview about happening inside home and even outside of it. It is only necessary to install cameras and connect them with the system.
TV
iHC-M, iPHONE/Smart phone
Comfortable control of home automation systems via your iPHONE, Smart phone.
iPHONE
iTP-B
TOUCH PANEL
Is a complement of iNELS system which easily merges with your household due to its elegant design. You can place it anywhere you want, even to your bathroom.
iHC-T, Touch tablet
To control lighting, heating, blinds, cameras, multimedia (music, film, TV, photo) and other system functions can also use your iPad or other tablet with Android OS.
iTP-T
iMM Client
iMM Client
Enables to control all iNELS functions via TV. Elegant noiseless version. Capacity of store is 250 GB.
LARA
Audiozone, LARA – audiozone player
Audiozone can overplay files from multimedia servers, but also stream Internet radio or use an external source to play music. All these things anywhere in your home and in elegant design LOGUS90.
IP HLÁSKA
SATELIT
SATELLITE
Via satellite receiver you can watch up to 4 satellite channels at once, if they are placed on a same transponder.
INDOOR CAMERA
System supports connection, display and control of IP cameras including PTZ (position control, image extension, record,...)
KAMERA
DOORPHONE COMMUNICATOR
Door communicator with top technologies and a unique design. It is a communication system supporting voice and movie transmission.
LEGEND:
Switching appliances
Heating regulation
Light control
Shutter control
Media


iNELS
BUS System
APARTMENT
WSB3-20G/40G
4 CHANNEL WALL CONTROLLER
Controls lights, jalousies, shutters and other appliances, in LOGUS90 design.
SWITCHING ACTUATOR 1-CHANNEL
The unit can be used e.g. to control the thermodriver. Designed for mounting into the installation box.
SA3-01B
BINARY INPUT UNIT
Designed for connection of 2, 4 or 8 devices with potential-less contacts (switches, buttons, PIR sensors, fire and gas detectors etc.).
IM3-408
WMR3-11/G
CARD READER
Is intended for reading of contactless media (chip cards, key chains,...).
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0 - 10 V
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Shutter control
Detectors